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Tel.: +31 (0)70 340 45 00

Date

04.07.07

Reference PCT104/EP	Application No./Patent No. 03727512.0 - 1256 PCT/ES0300232
Applicant/Proprietor LASA BERASATEGUI, Javier, et al	

**Notice drawing attention to Article 86(2) EPC, Art. 2 No. 5 of the rules relating to fees  
- Payment of the renewal fee plus additional fee -**

The renewal fee for the 05. year fell due on 31.05.07 unless this date falls within the period covered by an interruption of the proceedings in accordance with Rule 90(1) EPC.

The amount of the renewal fee on that date was **EUR 450,00** (see OJ EPO 2001, 374, 377, 378, and 543).

**The renewal fee was not paid by the due date.**

The renewal fee may still be validly paid up to the last day of the sixth calendar month following the due date, provided that the additional fee (10% of the renewal fee) is paid at the same time.

Within the above period which cannot be extended the following fees are to be paid:

Renewal fee for the 05. year:	EUR	450,00
Additional fee:	EUR	45,00
TOTAL AMOUNT		EUR 495,00

If the renewal fee and the additional fee are not paid in due time, the European patent application shall be deemed to be withdrawn (Art.86(3) EPC).

**Note to users of the automatic debiting procedure:**

The normal time limit for payment of the above renewal fee had already expired when the automatic debit order was received. The renewal fee and the surcharge will be debited automatically on the last day of the period of grace (Supplement to OJ EPO 2/1999; OJ EPO 2000, 62).

**For the Examining Division**



# Uryas



EUROPEAN PATENT ATTORNEYS

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EPO - Munich  
22

16. Mai 2007

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S/Ref.:

PCT104/EP

Madrid

27.04.2007

N/Ref.:

Oficina de:

EUROPEAN PATENT APPLICATION NO. 03727512.0-1256

**APPLICANT: LASA BERASATEGUI, Javier**

Dear Sirs,

With respect to your December 27, 2007 communication pursuant Rule 96(2) EPC in relation to the above referred European Patent Application, we kindly request the extension of the term to submit our observations and to correct any deficiencies. Please note that according to your communication the original term to reply will expire on April 27, 2007.

We are enclosing and EPO Form 1037 for acknowledgement of receipt of this document.

Respectfully,

JOSE ANTONIO URIZAR ANASAGASTI  
Authorized Representative 54190



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Date  
14.05.07

Reference  
PCT104/EP

Application No./Patent No.  
03727512.0 - 1256

Applicant/Proprietor  
LASA BERASATEGUI, Javier, et al

#### Extension of time limit pursuant to Rule 84 EPC

##### Examination procedure

With reference to your request, the time limit for replying to the communication dated 27.12.06 has been extended

by 2 months

to a total of 6 months

from the date of notification of the above-mentioned communication.

Please note: To the extent that your request exceeded the above extension, your request has been refused.

##### Note:

The granting of extensions to time limits is governed by the implementing Regulations to the EPC and the Guidelines for Examination in the EPO, part E-VIII, 1.6.

If no reply to the communication is received in due time, the European patent application will be deemed to be withdrawn (Article 96(3) EPC).

Examining Division



Cardjoe, Irene

3273

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S/Ref.:

PCT104/EP

Madrid

27.04.2007

N/Ref.:

Oficina de:

EUROPEAN PATENT APPLICATION NO. 03727512.0-1256

**APPLICANT: LASA BERASATEGUI, Javier**

Dear Sirs,

With respect to your December 27, 2007 communication pursuant Rule 96(2) EPC in relation to the above referred European Patent Application, we kindly request the extension of the term to submit our observations and to correct any deficiencies. Please note that according to your communication the original term to reply will expire on April 27, 2007.

We are enclosing and EPO Form 1037 for acknowledgement of receipt of this document.

Respectfully,

JOSE ANTONIO URIZAR ANASAGASTI  
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**Eingereichte Unterlagen**

**Items filed**

**Pièces envoyées**

	Anmeldungs- (und Direktions-*) Nr./Patent Nr. Application (and Directorate*) No./Patent No. N° de la demande (et de la direction*)/n° du brevet	Ihr Zeichen Your reference Votre référence	ggfs. Art und Datum der Unterlagen** Nature and date of items (optional)** Nature et date des pièces (facultatif)**
1	03727512.0-1256	PCT104/EP	REQUEST THE EXTENSION
2			OF THE TERM
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(Formalities and other matters)



Application No. 03 727 512.0 - 1256	Ref. PCT104/EP	Date 27.12.2006
Applicant LASA BERASATEGUI, Javier		

**Communication pursuant to Article 96(2) EPC**

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

**of 4 months**

from the notification of this communication, this period being computed in accordance with Rules 78(2) and 83(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (Rule 36(1) EPC).

**Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Article 96(3) EPC).**



Oosterom, Marcel  
Primary Examiner  
for the Examining Division

Enclosure(s): 4 page/s reasons (Form 2906)

**Bescheld/Protokoll (Anlage)**

Datum  
Date  
Date 27.12.2006

**Communication/Minutes (Annex)**

Blatt  
Sheet  
Feuille 1

**Notification/Procès-verbal (Annexe)**

Anmelde-Nr.:  
Application No.: 03 727 512.0  
Demande n°:

The examination is being carried out on the **following application documents**:

<b>Description, Pages</b>	1-5	filed with entry into the regional phase before the EPO
<b>Claims, Numbers</b>	1-3	filed with entry into the regional phase before the EPO
<b>Drawings, Sheets</b>	1/2, 2/2	filed with entry into the regional phase before the EPO

Reference is made to the following document; the numbering will be adhered to in the rest of the procedure:

D1: US-A-5 244 060 A 19930914 (HITACHI LTD)

The following document (D) is cited by the examiner (see the Guidelines, C-VI, 8.7). A copy of the documents is annexed to the communication and the numbering will be adhered to in the rest of the procedure:

D2: US7112901 B1 20060926 (VOITH PAPER PATENT GMBH)

**Amendments**

- 1 The amendments filed under Article 19 PCT dated November 28, 2003 introduces subject-matter which extends beyond the content of the application as filed, contrary to Article 123(2) EPC. The amendments concerned are the following:
  - "...built-in regulation means..." in claim 1. In the remainder of this communication, this feature is assumed to be replaced by "...built-in adjustment means..." (see original claim 1).
  - "...integrated in the rotor (2)..." in claim 1. In the remainder of this communication, this feature is assumed to be removed.
  - "...integrated into the assembly of traction pulley (3) and rotor (1)..." In the remainder of this communication, this feature is assumed to be replaced by "...situated on said traction pulley (3)..." (see description, page 3, lines 20 to 24).

**Inventive step (Art. 56 EPC)**

- 2 The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 56 EPC.

**Bescheld/Protokoll (Anlage)**

Datum  
Date  
Date 27.12.2006

**Communication/Minutes (Annex)**

Blatt  
Sheet  
Feuille 2

**Notification/Procès-verbal (Annexe)**

Anmelde-Nr.:  
Application No.: 03 727 512.0  
Demande n°:

- 2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses in the formulation of claim 1 (the references in parentheses applying to this document):

Vertical elevator traction system with built-in **adjustment**, safety and emergency means, of the kind that includes an electrical motor (16) made up of a stator and a rotor (see description, column 3, lines 22 to 30), a traction pulley (4), and electromechanical brake (20) what acts by way of shoes on a cylindrical surface **situated on said traction pulley (4)**, a movement detection system (see description, column 4, lines 57 to 62) and an emergency system for cases of lack of energy (see description, column 5, lines 32 to 48).

- 2.2 The subject-matter of claim 1 therefore differs from this known D1 in that:

The electrical motor is an asynchronous electrical motor whose input current may vary in frequency and tension so that the motor should reach a variable electrical power with values of between a minimum of 2.2 kW to a maximum of 20 kW, in order to allow it to lift different loads with the same model of motor.

- 2.3 The problem to be solved by the present invention may therefore be regarded as:  
How to modify the elevator system described in document D1 such that the available electrical power provided by the motor is variable.
- 2.4 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Articles 52(1) and 56 EPC) for the following reasons:
- 2.5 The use of asynchronous motors in elevator systems is known from the prior art, see for example document D2. This document discloses an asynchronous electrical motor which is suitable for an elevator traction system and which can provide an electrical power which can range from 0.5 kW to 500 kW and with a rotation in the area of 0 to 20000 rpm and it further discloses a frequency transformer for use by the asynchronous motor (see description, column 6, lines 11 to 22).



**Bescheld/Protokoll (Anlage)**

Datum  
Date  
Date 27.12.2006

**Communication/Minutes (Annex)**

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Sheet  
Feuille 3

**Notification/Procès-verbal (Annexe)**

Anmelde-Nr.:  
Application No.: 03 727 512.0  
Demande n°:

The skilled person would therefore regard it as a normal design option to choose such a motor disclosed in document D2 for an elevator system described in document D1 in order to solve the problem posed, thereby arriving at a vertical elevator traction system as defined in claim 1 of the application without exercise of inventive step. Thus, the subject-matter of claim 1 does not involve an inventive step and does not satisfy the criterion set forth in Articles 52(1) and 56 EPC.

- 3 Dependent claims 2 and 3 do not appear to contain any additional features which, in combination with the features of any claim to which it refers, meet the requirements of the EPC with respect to novelty and/or inventive step.

The subject-matter of dependent claims 2 and 3 is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill.

**Closing remarks**

- 4 It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 29(1) EPC. The applicant should also indicate the difference of the subject matter of the new claim vis à vis the state of the art and the significance thereof.
- 5 When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).

**Bescheld/Protokoll (Anlage)**

Datum  
Date  
Date 27.12.2006

**Communication/Minutes (Annex)**

Blatt  
Sheet  
Feuille 4

**Notification/Procès-verbal (Annexe)**

Anmelde-Nr.:  
Application No.: 03 727 512.0  
Demande n°:

- 6 In amending present independent claim 1 for distinguishing from the prior art, the applicant is requested:
- to keep integrally the present wording of independent claim 1;
  - to add more precise wording found elsewhere in the original disclosure rather than by merely replacing the wording of the claims;
  - to **indicate** from which original page(s), line(s) or claim(s) the more precise wording stems (Art. 123(2); see also Guidelines E II 1); and
  - to mention documents D1 in the description (Rule 27(1) EPC).

\*\*\*

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D-80298 MÜNCHEN

GERMANY

S/Ref.:

N/Ref.: PCT104/EP Oficina de: Madrid 30.11.2006

EUROPEAN PATENT APPLICATION NO. 03727512.0-1256

APPLICANTS: LASA BERASATEGUI, Javier; AZURMENDI  
INCHAUSTI, Juan Jose.

Dear Sirs,

Please be informed that on November 30, 2006 we have deposited €467.50  
in the EPO account of Banco Bilbao Vizcaya Argentaria in Madrid.

We are forwarding herewith the EPO Form 1010 duly completed and  
signed, along with a copy of the receipt of the above mentioned deposit in  
the EPO account.

We are enclosing an EPO Form 1037 for acknowledgement of receipt of  
these documents.

Respectfully,

JOSE ANTONIO URIZAR ANASAGASTI  
Authorized Representative 54190



# **Payment of fees and costs**

## **Zur Kasse**

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Patent application / Patent No. (A separate form is required for each application)	
03 EP 03727512.0-1256	PCT

	Code		Currency	Amount
04	001	Filing fee	EUR	
05	002	Search fee	EUR	
06	005	Designation fee(s) <sup>3</sup>	EUR	
07	015	Claims fee(s) (Rule 31(1) EPC)	EUR	
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09	006	Examination fee	EUR	
10	007	Fee for grant including fee for printing (up to 35 pages)	EUR	
11	008	Additional fee for printing (more than 35 pages)	EUR	
12	033	Renewal fee for the 3rd year	EUR	
13	034	Renewal fee for the 4th year	EUR	467.50
14	035	Renewal fee for the 5th year	EUR	
15		Extension fee(s) for <sup>4</sup> :	EUR	
16			EUR	
17			EUR	
18			EUR	
19			EUR	
20			EUR	
21			EUR	
22			EUR	
Total			EUR	467.50

Signature

EPO Form 1010 01.02

Explanations 1 - 4 see overleaf.

Place, Date  
MADRID, November 30, 2006





Europäisches  
Patentamt

European  
Patent Office

Office européen  
des brevets

Einreicher / Sender / Expéditeur :

José Antonio Urizar Anasagasti  
C/Victor de la Serna 3-5 (Parking)  
28016 MADRID,  
SPAIN

Posted

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Tx 31 651 epo nl  
Fax (+31-70) 340-3018  
☒ D-10558 Berlin  
☎ (+49-30) 25901-0  
Fax (+49-30) 25901-840

**Bestätigung über den  
Eingang nachgereichter  
Unterlagen für Patentan-  
meldungen/Patente beim  
Europäischen Patentamt**

Datum und Ort des Eingangs sind aus  
der Perforation dieser Eingangsbestäti-  
gung ersichtlich  
(M + Datum = Einreichungsort München;  
H + Datum = Einreichungsort Den Haag;  
Datum + B = Einreichungsort Berlin)

**Acknowledgement of  
receipt for subsequently  
filed items relating to  
patent applications/patents  
at the European Patent  
Office**

Date and place of receipt are shown by  
the perforation appearing on this receipt  
(M + date = Munich as place of receipt;  
H + date = The Hague as place of receipt;  
date + B = Berlin as place of receipt)

**Accusé de réception à  
l'Office européen des bre-  
vets de pièces produites  
postérieurement au dépôt  
d'une demande de brevet/  
à la délivrance d'un brevet  
européen**

La date et le lieu de réception sont indi-  
qués par la perforation du présent accusé  
de réception  
(M + date = pièces reçues à Munich;  
H + date = pièces reçues à La Haye;  
date + B = pièces reçues à Berlin)

**Eingereichte Unterlagen**

**Items filed**

**Pièces envoyées**

Anmeldungs- (und Direktions-*) Nr./Patent Nr. Application (and Directorate *) No./Patent No. N° de la demande (et de la direction *)/n° du brevet	Ihr Zeichen Your reference Votre référence	ggfs. Art und Datum der Unterlagen** Nature and date of items (optional)** Nature et date des pièces (facultatif)**
1 03727512.0	PCT104/EP	Our letter dated November 30, 2006.
2		EPO form 1010 with a copy of the
3		receipt of our deposit on EPO account.
4		
5		
6		
7		
8		
9		
10		

\* falls bereits bekannt

\*\* Der Eingang der angegebenen Unterlagen  
wird bestätigt.  
Enthält diese Spalte keine Eintragungen, so  
wird lediglich bestätigt, daß eine Sendung  
zu dem angegebenen Aktonzeichen einge-  
gangen ist.

\* if already known

\*\* The receipt of the items indicated is  
confirmed.  
If this column does not contain any entries,  
it is only confirmed that an item has been  
received for the indicated file.

\* si déjà connu

\*\* La réception des pièces indiquées est  
confirmée.  
Faute de mention dans cette colonne, le  
présent accusé de réception se rapporte à  
une pièce quelconque envoyée sous la  
référence indiquée.



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**Office européen  
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Generaldirektion 1

Directorate General 1

Direction générale 1

Urizar Anasagasti, José Antonio  
Uryas  
C/Victor de la Serna 3-5  
(Parking)  
28016 Madrid  
ESPAGNE



**EPO Customer Services**

Tel.: +31 (0)70 340 45 00

Date

05.07.06

Reference  
PCT104/EP

Application No./Patent No.  
03727512.0 - 1256 PCT/ES0300232

Applicant/Proprietor  
LASA BERASATEGUI, Javier, et al

**Notice drawing attention to Article 86(2) EPC, Art. 2 No. 5 of the rules relating to fees  
- Payment of the renewal fee plus additional fee -**

The renewal fee for the 04. year fell due on 31.05.06 unless this date falls within the period covered by an interruption of the proceedings in accordance with Rule 90(1) EPC.

The amount of the renewal fee on that date was **EUR 425,00** (see OJ EPO 2001, 374, 377, 378, and 543).

**The renewal fee was not paid by the due date.**

The renewal fee may still be validly paid up to the last day of the sixth calendar month following the due date, provided that the additional fee (10% of the renewal fee) is paid at the same time.

Within the above period which cannot be extended the following fees are to be paid:

Renewal fee for the 04. year:	EUR	425,00
Additional fee:	EUR	42,50
		-----
<b>TOTAL AMOUNT</b>	<b>EUR</b>	<b>467,50</b>

If the renewal fee and the additional fee are not paid in due time, the European patent application shall be deemed to be withdrawn (Art.86(3) EPC).

**Note to users of the automatic debiting procedure:**

The normal time limit for payment of the above renewal fee had already expired when the automatic debit order was received. The renewal fee and the surcharge will be debited automatically on the last day of the period of grace (Supplement to OJ EPO 2/1999; OJ EPO 2000, 62).

For the Examining Division





P.B.5818 - Patentlaan 2  
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Direction générale 1

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**EPO Customer Services**

Tel.: +31 (0)70 340 45 00

Date

15.03.06

Reference  
PCT104/EP

Application No./Patent No.  
03727512.0 - PCT/ES0300232

Applicant/Proprietor  
LASA BERASATEGUI, Javier, et al

**Notification of European publication number and information on the application of Article 67(3) EPC**

You are hereby informed that the technical preparations for the publication of the translation of the above-mentioned international application as supplied to the EPO pursuant to Article 158(2) EPC have been completed.

The translation will be published on 26.04.06.

The publication number is: 1650154.

The publication in accordance with Article 158(3) EPC will be mentioned in European Patent Bulletin number 2006/17. ([http://www.european-patent-office.org/e\\_pub/bulletin/index.htm](http://www.european-patent-office.org/e_pub/bulletin/index.htm)).

The title of the invention in the three official languages of the European Patent Office is worded as follows:

VERTIKALANTRIEBSSYSTEM FÜR AUFZÜGE MIT EINGEBAUTEM STEUER-, SICHERHEITS-  
UND NOTSYSTEM  
VERTICAL TRACTION SYSTEM FOR ELEVATORS, WITH BUILT-IN CONTROL, SAFETY AND  
EMERGENCY SYSTEM  
SYSTEME D'ENTRAÎNEMENT POUR ASCENSEURS EQUIPE D'UN MÉCANISME DE RÉGLAGE,  
DE SÉCURITÉ ET DE SECOURS INTÉGRÉ

The provisional protection under Article 67(1) and (2) EPC in the individual contracting states becomes effective only when the conditions referred to in Article 67(3) EPC have been fulfilled. For further information, also with respect to extension states, please refer to the EPO brochure "National Law relating to the EPC" (<http://www.european-patent-office/legal/national/index.htm>).

In all future communications to the EPO, please quote the application number as indicated above, i.e. including the final four figures (which identify the Directorate responsible for the subsequent procedure).





Date

Sheet 2

Application No. 03727512.0

**REMARK:**

For European patent applications with a date of publication after 01.04.05, no paper copies will be forwarded to the applicant any longer. The publication can be downloaded, free of charge, from the EPO publication server <https://publications.european-patent-office.org> or can be ordered from the Vienna sub-office upon payment of a fee (see Decision of the President of the EPO dated 22 December 2004, OJ 2005, 124 and Notice from the EPO dated 22 December 2004 concerning the introduction of electronic publication of European patent applications (A-documents) and European patent specifications (B-documents) as well as changes to Rules 51(4), 54 and 108 EPC, OJ EPO 2005, 126).

**Receiving Section**



# Uryas



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Searches in the Mercantile Register Office and incorporation and registration of companies.

Representation office for Europe:

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http://www.uryas.com

EPO - Munich  
59

11. März 2006

EUROPEAN PATENT OFFICE  
Directorate  
D-80298 MÜNCHEN  
GERMANY/ALEMANIA

YOUR/REF.:

OUR/REF.: PCT104/EP

OFFICE OF: Madrid

DATE: 07/03/2006

**REF.: EUROPEAN PATENT APPLICATION N°03727512.0-2316**  
**APPLICANTS: LASA BERASATEGUI, Javier; AZURMENDI**  
**INCHAUSTI, Juan Jose.**

Dear Sirs,

In response to your Communication pursuant to Rule 49.5 PCT of 22 February 2006 attached please find the translation of the abstract.

Respectfully,

JOSE ANTONIO URIZAR ANASAGASTI  
Authorized Representative 54190

# **Abstract.**

The invention relates to a vertical traction system for lifting elevators, consisting of a motor comprising a low-slip, high-torque asynchronous stator (2) and rotor (1), a driving pulley (3) which is rigidly connected to the rotor (1), an electromechanical brake (7) and a movement-detector system comprising a digital encoder (8) which is used to analyse information relating to the angular speed of the rotor (1). The torque is transmitted directly to the elevator between the motor and the pulley, without the use of gears. The inventive system is characterised in that, in the absence of voltage, the motor can be powered with direct current from batteries by varying the frequency and voltage. Using the same model, power of between 2.2 kW and 20 kW can be obtained. In the event of a breakdown, when electric current is still available, the motor is actuated until the elevator reaches a floor and the doors are opened.

# Uryas

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Filing, prosecution and supervision of patents, designs, distinctive signs and semiconductor topography.

Technical Investigations on trademarks and patents in and outside Spain.

International patent applications, PCT, European Patents, design models and International trademarks.

Legal and technical consultants for patents and trademarks. Franchising, licensing contracts, and litigations. Assistance for developing new products and distinctive signs.

Searches in the Mercantile Register Office and incorporation and registration of companies.

Representation office for Europe:

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P.O. BOX 61061  
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e-mail: uryas@uryas.com  
http://www.uryas.com

**EUROPEAN PATENT OFFICE**  
Directorate  
D-80298 MÜNCHEN  
GERMANY/ALEMANIA

YOUR/REF:

OUR/REF: PCT104/EP

OFFICE OF: Madrid

DATE: 07/03/2006

**REF.: EUROPEAN PATENT APPLICATION N°03727512.0-2316**  
**APPLICANTS: LASA BERASATEGUI, Javier; AZURMENDI INCHAUSTI, Juan Jose.**

Dear Sirs,

In response to your Communication pursuant to Rule 49.5 PCT of 22 February 2006 attached please find the translation of the abstract.

Respectfully,

**JOSE ANTONIO URIZAR ANASAGASTI**  
Authorized Representative 54190

**Abstract.**

The invention relates to a vertical traction system for lifting elevators, consisting of a motor comprising a low-slip, high-torque asynchronous stator (2) and rotor (1), a driving pulley (3) which is rigidly connected to the rotor (1), an electromechanical brake (7) and a movement-detector system comprising a digital encoder (8) which is used to analyse information relating to the angular speed of the rotor (1). The torque is transmitted directly to the elevator between the motor and the pulley, without the use of gears. The inventive system is characterised in that, in the absence of voltage, the motor can be powered with direct current from batteries by varying the frequency and voltage. Using the same model, power of between 2.2 kW and 20 kW can be obtained. In the event of a breakdown, when electric current is still available, the motor is actuated until the elevator reaches a floor and the doors are opened.



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**EPO Customer Services**

Tel.: +31 (0)70 340 45 00

Date 22-02-2006

Reference PCT104/EP	Application No./Patent No. 03727512.0 - 2316 PCT/ES0300232
Applicant/Proprietor LASA BERASATEGUI, Javier, et al	

#### Communication pursuant to Rule 49.5 PCT

The formalities examination of the above-mentioned European patent application has disclosed that the translation of the related international application into one of the official languages of the European Patent Office as required under Article 158(2) in conjunction with Rule 107(1)a) EPC does not contain the translation of

- ☐ either the claims as filed or as amended under Article 19 PCT.
- ☐ the statement under Article 19(1) PCT.
- ☐ the text matter contained in the drawings.
- ☒ the abstract.
- ☐ the annexes to the international preliminary examination report.
- ☐ .....

You are invited to file the missing document(s) within **one month** after notification of the present communication.

If the translation of the claims as filed, of the text matter contained in the drawings, of the abstract or of the annexes to the international preliminary examination report is not furnished in due time, you will be informed that the European patent application is deemed to be withdrawn (Art. 24(1)(iii) or Art. 39(2) PCT).

If the translation of the claims as amended or of the statement under Article 19(1) PCT is not furnished in due time, those claims/the statement will be disregarded (R. 49.5(c), (c-bis) PCT).

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(Parking)  
28016 Madrid  
ESPAGNE



**EPO Customer Services**

Tel.: +31 (0)70 340 45 00

Date

02-02-2006

Reference PCT104/EP	Application No./Patent No. 03727512.0 - PCT/ES0300232
Applicant/Proprietor LASA BERASATEGUI, Javier, et al	

#### **Communication pursuant to Rules 109 and 110 EPC**

##### **(1) Amendment of application documents, especially the claims (R. 109 EPC)**

The above mentioned international (Euro-PCT) application has entered the European phase, or can do so, once the necessary conditions are fulfilled.

Under Articles 28, 41 PCT, Rules 52, 78 PCT and Rule 86(2) to (4) EPC, the applicant may amend the application documents after receiving the international search report.

**Whether or not he has already done so, he now has a further opportunity to file amended claims or other application documents within a non-extendable time limit of one month after notification of the present communication (R. 109 EPC).**

The claims applicable on expiry of the above time limit, i.e. those filed on entry into the European phase or in response to the present communication, will form the basis for the calculation of any claims fee to be paid (see page 2) and for any supplementary search to be carried out under Article 157(2) EPC (R. 109 EPC).



Date

Sheet 2

Application No. 03727512.0

**(2) Claims fees under Rule 110 EPC**

If the application documents on which the European grant procedure is to be based comprise more than ten claims, a claims fee shall be payable for the eleventh and each subsequent claim within the period provided for in Rule 107(1) EPC.

- ☒ Based on the application documents currently on file, all necessary claims fees have already been paid (or the documents do not comprise more than 10 claims).
- ☐ All necessary fees will be/have been debited automatically according to the automatic debit order.
- ☐ The claims fee due for the claims ..... to ..... were not paid within the above-mentioned period.

Any non-paid claims fee, either based on the current set of claims or on any amended claims to be filed pursuant to Rule 109 EPC (see page 1), may still be validly paid within a non-extendable period of grace of **one month** after notification of this communication.

If a payment is made for only some of the claims, it must be indicated for which claims it is intended. If a claims fee is not paid in due time, the claim concerned is deemed to be abandoned (R. 110(4) EPC).

If claims fees have already been paid, but on expiry of the above-mentioned time limit there is a new set of claims containing fewer fee-incurring claims than previously, the claims fees in excess of those due under Rule 110(2), 2nd sentence, EPC will be refunded (R. 110(3) EPC).

You are reminded that any supplementary search under Article 157(2) EPC will relate only to the last set of claims applicable on expiry of the above time limit AND will be confined to those fee-incurring claims for which fees have been paid in due time.

**The fee for the eleventh and each subsequent claim is EUR 40,00.**

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LASA BERASATEGUI, Javier  
Beasainbidea, 22  
20216 Ormaiztegui Guipuzcoa  
ESPAGNE



EPO Customer Services

Tel.: +31 (0)70 340 45 00

Date 23-01-2006

Reference	Application No./Patent No. 03727512.0 - PCT/ES0300232
Applicant/Proprietor LASA BERASATEGUI, Javier, et al	

#### Communication pursuant to Rule 49.5 PCT

The formalities examination of the above-mentioned European patent application has disclosed that the translation of the related international application into one of the official languages of the European Patent Office as required under Article 158(2) in conjunction with Rule 107(1)a) EPC does not contain the translation of

- ☐ either the claims as filed or as amended under Article 19 PCT.
- ☐ the statement under Article 19(1) PCT.
- ☐ the text matter contained in the drawings.
- ☒ the abstract.
- ☐ the annexes to the international preliminary examination report.
- ☐ .....

You are invited to file the missing document(s) within **one month** after notification of the present communication.

If the translation of the claims as filed, of the text matter contained in the drawings, of the abstract or of the annexes to the international preliminary examination report is not furnished in due time, you will be informed that the European patent application is deemed to be withdrawn (Art. 24(1)(iii) or Art. 39(2) PCT).

If the translation of the claims as amended or of the statement under Article 19(1) PCT is not furnished in due time, those claims/the statement will be disregarded (R. 49.5(c), (c-bis) PCT).

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An das Europäische Patentamt

To the European Patent Office

A l'Office européen des brevets

1

EPO - Munich  
29**Eintritt in die  
europäische Phase  
(EPA als Bestimmungsamt  
oder ausgewähltes Amt)****Entry into the  
European phase  
(EPO as designated or  
elected Office)**

27. Dez. 2005

**Entrée dans la  
phase européenne  
(l'OEB agissant en qualité  
d'office désigné ou élu)**

Europäische Anmeldenummer oder, falls nicht bekannt, PCT-Aktenzeichen oder PCT-Veröffentlichungsnummer	European application number, or, if not known, PCT application or publication number  WO 2004/103881	Numéro de dépôt de la demande de brevet européen ou, à défaut, numéro de dépôt PCT ou de publication PCT
Zeichen des Anmelders oder Vertreters (max. 15 Positionen)	Applicant's or representative's reference (max. 15 spaces)  PCT104/EP	Référence du demandeur ou du mandataire (15 caractères ou espaces au maximum)
<input checked="" type="checkbox"/> 1. <b>Anmelder</b> Die Angaben über den (die) Anmelder sind in der internationalen Veröffentlichung enthalten oder vom Internationalen Büro nach der internationalen Veröffentlichung vermerkt worden.  <input type="checkbox"/> Änderungen, die das Internationale Büro noch nicht vermerkt hat, sind auf einem Zusatzblatt angegeben.  <b>Zustellschrift</b> (siehe Merkblatt II, 1)	1. <b>Applicant</b> Indications concerning the applicant(s) are contained in the international publication or recorded by the International Bureau after the international publication.  Changes which have not yet been recorded by the International Bureau are set out on an additional sheet.  <b>Address for correspondence</b> (see Notes II, 1)	1. <b>Demandeur</b> Les indications concernant le(s) demandeur(s) figurent dans la publication internationale ou ont été enregistrées par le Bureau international après la publication internationale.  Les changements qui n'ont pas encore été enregistrés par le Bureau international sont indiqués sur une feuille additionnelle.  <b>Adresse pour la correspondance</b> (voir notice II, 1)
2. <b>Vertreter</b>  <b>Name</b> (Nur einen Vertreter angeben, der in das europäische Patentregister eingetragen und an den zugestellt wird)  <b>Geschäftsanschrift</b>  <b>Telefon</b>  <b>Telefax</b> <b>Telex</b>  <input type="checkbox"/> Weitere(r) Vertreter auf Zusatzblatt	2. <b>Representative</b>  <b>Name</b> (Name only one representative who will be listed in the Register of European Patents and to whom notification will be made) Jose Antonio Urizar Anasagasti  <b>Address of place of business</b> C/Victor de la Sema, 3-5 (Parking) 28016 MADRID, SPAIN  <b>Telephone</b> +34-91-415-08-43  <b>Fax</b> <b>Telex</b> +34-91-415-36-66  Additional representative(s) on additional sheet	2. <b>Mandataire</b>  <b>Nom</b> (N'indiquer qu'un seul mandataire, qui sera inscrit au Registre européen des brevets et auquel signification sera faite)  <b>Adresse professionnelle</b> <b>Zur Kasse</b> <i>U.E. 2.209,-</i>  <b>Téléphone</b>  <b>Téléfax</b> <b>Télex</b>  Autre(s) mandataire(s) sur une feuille additionnelle
3. <b>Vollmacht</b>  <input type="checkbox"/> Einzelvollmacht ist beigelegt.  <input type="checkbox"/> Allgemeine Vollmacht ist registriert unter Nummer:  <input checked="" type="checkbox"/> Allgemeine Vollmacht ist eingereicht, aber noch nicht registriert.  <input type="checkbox"/> Die beim EPA als PCT-Anmeldeamt eingereichte Vollmacht schließt ausdrücklich die europäische Phase ein.	3. <b>Authorisation</b>  Individual authorisation is attached.  General authorisation has been registered under No:  A general authorisation has been filed, but not yet registered.  The authorisation filed with the EPO as PCT receiving Office expressly includes the European phase.	3. <b>Pouvoir</b>  Un pouvoir spécial est joint.  Un pouvoir général a été enregistré sous le n°:  Un pouvoir général a été déposé, mais n'est pas encore enregistré.  Le pouvoir général déposé à l'OEB agissant en qualité d'office récepteur au titre du PCT s'applique expressément à la phase européenne.

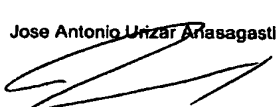
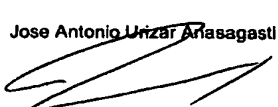
<input checked="" type="checkbox"/> <b>4. Prüfungsantrag</b> Hiermit wird die Prüfung der Anmeldung gemäß Art. 94 EPU beantragt. Die Prüfungsgebühr wird (wurde) entrichtet.  Prüfungsantrag in einer zugelassenen Nichtamtssprache (siehe Merkblatt III, 5.2) :	<b>4. Request for examination</b> Examination of the application under Art. 94 EPC is hereby requested. The examination fee is being (has been, will be) paid.  Request for examination in an admissible non-EPO language (see Notes III, 5.2) :  Se solicita el examen de la solicitud segun el art.94 CPE	<b>4. Requête en examen</b> Il est demandé que soit examinée la demande de brevet conformément à l'art. 94 CBE. Il est (a été, sera) procédé au paiement de la taxe d'examen.  Requête en examen dans une langue non officielle autorisée (voir notice III, 5.2) :
<input type="checkbox"/> <b>5. Abschriften</b> Zusätzliche Abschrift(en) der im ergänzenden europäischen Recherchenbericht angeführten Schriftstücke wird (werden) beantragt.  Anzahl der <b>zusätzlichen</b> Sätze von Abschriften	<b>5. Copies</b> Additional copy (copies) of the documents cited in the supplementary European search report is (are) requested.  Number of <b>additional</b> sets of copies	<b>5. Copies</b> Prière de fournir une ou plusieurs copies supplémentaires des documents cités dans le rapport complémentaire de recherche européenne.  Nombre de jeux <b>supplémentaires</b> de copies
<b>6. Für das Verfahren vor dem EPA bestimmte Unterlagen</b>  6.1 Dem Verfahren vor dem EPA als <b>Bestimmungsamt</b> (PCT II) sind folgende Unterlagen zugrunde zu legen:  <input checked="" type="checkbox"/> die vom Internationalen Büro <b>veröffentlichten Anmeldeunterlagen</b> (mit <b>allen</b> Ansprüchen, Beschreibung und Zeichnungen), gegebenenfalls mit den geänderten Ansprüchen nach Art. 19 PCT  <input type="checkbox"/> soweit sie nicht ersetzt werden durch die beigelegten <b>Änderungen</b> .  <i>Falls nötig, sind Klarstellungen auf einem Zusatzblatt einzureichen!</i>  6.2 Dem Verfahren vor dem EPA als <b>ausgewähltem Amt</b> (PCT II) sind folgende Unterlagen zugrunde zu legen:  <input checked="" type="checkbox"/> die dem <b>internationalen vorläufigen Prüfungsbericht zugrunde gelegten Unterlagen</b> , einschließlich seiner eventuellen <b>Anlagen</b> (Solche Anlagen müssen immer beigelegt werden)  <input type="checkbox"/> soweit sie nicht ersetzt werden durch die beigelegten <b>Änderungen</b> .  <i>Falls nötig, sind Klarstellungen auf einem Zusatzblatt einzureichen!</i>  <input checked="" type="checkbox"/> Sind dem EPA als mit der internationalen vorläufigen Prüfung beauftragten Behörde <b>Versuchsberichte</b> zugegangen, dürfen diese dem Verfahren vor dem EPA zugrunde gelegt werden.	<b>6. Documents intended for proceedings before the EPO</b>  6.1 Proceedings before the EPO as <b>designated Office</b> (PCT II) are to be based on the following documents:  the <b>application documents published</b> by the International Bureau (with <b>all</b> claims, description and drawings), where applicable with amended claims under Art. 19 PCT  unless replaced by the <b>amendments</b> enclosed.  <i>Where necessary, clarifications must be submitted on a separate sheet!</i>  6.2 Proceedings before the EPO as <b>elected Office</b> (PCT II) are to be based on the following documents:  the <b>documents on which the International preliminary examination report is based</b> , including its possible <b>annexes</b> (Such annexes must always be filed)  unless replaced by the <b>amendments</b> enclosed.  <i>Where necessary, clarifications must be submitted on a separate sheet!</i>  If the EPO as International Preliminary Examining Authority has received <b>test reports</b> , these may be used as the basis of proceedings before the EPO.	<b>6. Pièces destinées à la procédure devant l'OEB</b>  6.1 La procédure devant l'OEB agissant en qualité d' <b>office désigné</b> (PCT II) doit se fonder sur les pièces suivantes :  les <b>pièces de la demande publiée</b> par le Bureau international (avec <b>toutes</b> les revendications, la description et les dessins), éventuellement avec les revendications modifiées conformément à l'article 19 du PCT  dans la mesure où elles ne sont pas remplacées par les <b>modifications</b> jointes.  <i>Le cas échéant, des explications doivent être jointes sur une feuille additionnelle!</i>  6.2 La procédure devant l'OEB agissant en qualité d' <b>office élu</b> (PCT II) doit se fonder sur les pièces suivantes :  les <b>pièces sur lesquelles se fonde le rapport d'examen préliminaire international</b> , y compris ses <b>annexes</b> éventuelles (De telles annexes sont toujours à joindre)  dans la mesure où elles ne sont pas remplacées par les <b>modifications</b> jointes.  <i>Le cas échéant, des explications doivent être jointes sur une feuille additionnelle!</i>  Si l'OEB, agissant en qualité d'administration chargée de l'examen préliminaire international, a reçu des <b>rapports d'essais</b> , ceux-ci peuvent constituer la base de la procédure devant l'OEB.

<p><b>7. Übersetzungen</b> Beigefügt sind die nachfolgend angekreuzten Übersetzungen in einer der Amtssprachen des EPA (Deutsch, Englisch, Französisch):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>Im Verfahren vor dem EPA als Bestimmungsamt oder ausgewähltem Amt (PCT I + II):</b> Übersetzung der <b>ursprünglich eingereichten internationalen Anmeldung</b> (Beschreibung, Ansprüche, etwaige Textbestandteile in den Zeichnungen), der veröffentlichten Zusammenfassung, und etwaiger Angaben über biologisches Material nach Regel 13<sup>bis</sup>.3 und 13<sup>bis</sup>.4 PCT</li> <li><input type="checkbox"/> Übersetzung der <b>prioritätsbegründenden Anmeldung(en)</b></li> <li><input type="checkbox"/> Es wird hiermit erklärt, daß die internationale Anmeldung in ihrer ursprünglich eingereichten Fassung eine vollständige Übersetzung der früheren Anmeldung ist (Regel 38(5) EPC)</li> <li><input type="checkbox"/> <b>Zusätzlich im Verfahren vor dem EPA als Bestimmungsamt (PCT I):</b> Übersetzung der nach Art. 19 PCT <b>geänderten Ansprüche</b> nebst Erklärung, falls diese dem Verfahren vor dem EPA zugrunde gelegt werden sollen (siehe Feld 6)</li> <li><input type="checkbox"/> <b>Zusätzlich im Verfahren vor dem EPA als ausgewähltem Amt (PCT II):</b> Übersetzung der <b>Anlagen zum internationalen vorläufigen Prüfungsbericht</b></li> </ul>	<p><b>7. Translations</b> Translations in one of the official languages of the EPO (English, French, German) are enclosed as crossed below:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>In proceedings before the EPO as designated or elected Office (PCT I + II):</b> Translation of the <b>international application</b> (description, claims, any text in the drawings) as <b>originally filed</b>, of the abstract as published and of any indication under Rule 13<sup>bis</sup>.3 and 13<sup>bis</sup>.4 PCT regarding biological material</li> <li><input type="checkbox"/> Translation of the <b>priority application(s)</b></li> <li><input type="checkbox"/> It is hereby declared that the international application as originally filed is a complete translation of the previous application (Rule 38(5) EPC)</li> <li><input type="checkbox"/> <b>In addition, in proceedings before the EPO as designated Office (PCT I):</b> Translation of <b>amended claims</b> and any statement under Art. 19 PCT, if the claims as amended are to form the basis for the proceedings before the EPO (see Section 6)</li> <li><input type="checkbox"/> <b>In addition, in proceedings before the EPO as elected Office (PCT II):</b> Translation of any <b>annexes to the international preliminary examination report</b></li> </ul>	<p><b>7. Traductions</b> Vous trouverez, ci-joint, les traductions cochées ci-après dans l'une des langues officielles de l'OEB (allemand, anglais, français) :</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>Dans la procédure devant l'OEB agissant en qualité d'office désigné ou élu (PCT I + II):</b> Traduction de la <b>demande internationale telle que déposée initialement</b> (description, revendications, textes figurant éventuellement dans les dessins), de l'abrégé publié, et de toutes indications visées aux règles 13<sup>bis</sup>.3 et 13<sup>bis</sup>.4 du PCT concernant le matériel biologique</li> <li><input type="checkbox"/> Traduction de la (des) <b>demande(s) ouvrant le droit de priorité</b></li> <li><input type="checkbox"/> Il est déclaré par la présente que la demande internationale telle que déposée initialement est une traduction intégrale de la demande antérieure (règle 38(5) CBE)</li> <li><input type="checkbox"/> <b>De plus, dans la procédure devant l'OEB agissant en qualité d'office désigné (PCT I) :</b> Traduction des <b>revendications modifiées</b> et de la déclaration faite conformément à l'article 19 du PCT, si la procédure devant l'OEB doit être fondée sur les revendications modifiées (voir la rubrique 6)</li> <li><input type="checkbox"/> <b>De plus, dans la procédure devant l'OEB agissant en qualité d'office élu (PCT II) :</b> Traduction des <b>annexes du rapport d'examen préliminaire international</b></li> </ul>
<p><input type="checkbox"/> <b>8. Biologisches Material</b> Die Erfindung bezieht sich auf bzw. verwendet biologisches Material, das nach Regel 28 EPÜ hinterlegt worden ist.</p> <p><input type="checkbox"/> <b>Die Angaben nach Regel 28(1)(c) EPÜ</b> (falls noch nicht bekannt, die Hinterlegungsstelle und das (die) Bezugszeichen [Nummer, Symbole usw.] des Hinterlegers) sind in der internationalen Veröffentlichung oder in der gemäß Feld 7 eingereichten Übersetzung enthalten auf:</p> <p>Seite(n) / Zeile(n)</p> <p><input type="checkbox"/> <b>Die Empfangsbescheinigung(en) der Hinterlegungsstelle</b></p> <p><input type="checkbox"/> ist (sind) beigefügt</p> <p><input type="checkbox"/> wird (werden) nachgereicht</p> <p><input type="checkbox"/> Verzicht auf die Verpflichtung des Antragstellers nach Regel 28(3) EPÜ auf gesondertem Schriftstück</p>	<p><input type="checkbox"/> <b>8. Biological material</b> The invention relates to and/or uses biological material deposited under Rule 28 EPC.</p> <p><input type="checkbox"/> <b>The particulars referred to in Rule 28(1)(c) EPC</b> (if not yet known, the depository institution and the identification reference(s) [number, symbols etc.] of the depositor) are given in the international publication or in the translation submitted under Section 7 on:</p> <p>page(s) / line(s)</p> <p><input type="checkbox"/> <b>The receipt(s) of deposit issued by the depository institution</b></p> <p><input type="checkbox"/> is (are) enclosed</p> <p><input type="checkbox"/> will be filed at a later date</p> <p><input type="checkbox"/> Waiver of the right to an undertaking from the requester pursuant to Rule 28(3) EPC attached.</p>	<p><input type="checkbox"/> <b>8. Matière biologique</b> L'invention concerne et/ou utilise de la matière biologique, déposée conformément à la règle 28 CBE.</p> <p><input type="checkbox"/> <b>Les indications visées à la règle 28(1)(c) CBE</b> (si non encore connues, l'autorité de dépôt et la (les) référence(s) d'identification [numéro ou symboles etc.] du déposant) figurent dans la publication internationale ou dans une traduction produite conformément à la rubrique 7 à / aux:</p> <p>page(s) / ligne(s)</p> <p><input type="checkbox"/> <b>Le(s) récépissé(s) de dépôt délivré(s) par l'autorité de dépôt</b></p> <p><input type="checkbox"/> est (sont) joint(s)</p> <p><input type="checkbox"/> sera (seront) produit(s) ultérieurement</p> <p><input type="checkbox"/> Renonciation, sur document distinct, à l'engagement du requérant au titre de la règle 28(3) CBE.</p>

<p><b>9. Nucleotid- und Aminosäuresequenzen</b> Die nach Regeln 5.2 und 13<sup>ter</sup> PCT sowie Regel 111(3) EPÜ erforderlichen Unterlagen liegen dem EPA bereits vor.</p> <p><input type="checkbox"/> Das schriftliche Sequenzprotokoll wird anliegend nachgereicht.</p> <p><input type="checkbox"/> Das Sequenzprotokoll geht nicht über den Inhalt der Anmeldung in der ursprünglich eingereichten Fassung hinaus.</p> <p><input type="checkbox"/> Der vorgeschriebene Datenträger ist beigelegt.</p> <p><input type="checkbox"/> Die auf dem Datenträger gespeicherte Information stimmt mit dem schriftlichen Sequenzprotokoll überein.</p>	<p><b>9. Nucleotide and amino acid sequences</b> The items necessary in accordance with Rules 5.2 and 13<sup>ter</sup> PCT and Rule 111(3) EPC have already been furnished to the EPO.</p> <p>The written sequence listing is furnished herewith.</p> <p>The sequence listing does not include matter which goes beyond the content of the application as filed.</p> <p>The prescribed data carrier is enclosed.</p> <p>The information recorded on the data carrier is identical to the written sequence listing.</p>	<p><b>9. Séquences de nucléotides et d'acides aminés</b> Les pièces requises selon les règles 5.2 et 13<sup>ter</sup> PCT et la règle 111(3) CBE ont déjà été déposées auprès de l'OEB.</p> <p>La liste de séquences écrite est produite ci-joint.</p> <p>La liste de séquences ne contient pas d'éléments s'étendant au-delà du contenu de la demande telle qu'elle a été déposée.</p> <p>Le support de données prescrit est joint.</p> <p>L'information figurant sur le support de données est identique à celle que contient la liste de séquences écrite.</p>
<p><b>10. Benennungsgebühren</b></p> <p><input checked="" type="checkbox"/> 10.1 Es ist derzeit beabsichtigt, den <b>siebenfachen</b> Betrag einer Benennungsgebühr zu entrichten. Damit gelten die Benennungsgebühren für <b>alle Vertragsstaaten des EPÜ<sup>1</sup></b> als entrichtet (Art. 2 Nr. 3 GebO), soweit sie in der <b>internationalen Anmeldung</b> bestimmt sind<sup>2</sup>.</p> <p><input type="checkbox"/> 10.2 Abweichend von der Erklärung in Nr. 10.1 ist derzeit beabsichtigt, <b>weniger als sieben</b> Benennungsgebühren für folgende in der <b>internationalen Anmeldung bestimmte Vertragsstaaten des EPÜ<sup>2</sup></b> zu entrichten:</p> <p>(1) <input type="text"/> _____</p> <p>(2) <input type="text"/> _____</p> <p>(3) <input type="text"/> _____</p> <p>Soweit unter Nr. 10.2 Vertragsstaaten aufgeführt sind, wird beantrag, für die dort nicht aufgeführten Vertragsstaaten von der Zustellung einer Mitteilung nach Regel 108(3) EPÜ abzusehen.</p> <p><input checked="" type="checkbox"/> 10.3 Wird ein <b>automatischer Abbuchungsauftrag</b> erteilt (Feld 12), so wird das EPA beauftrag, bei Ablauf der Grundfrist nach Regel 107 (1)d) EPÜ den siebenfachen Betrag einer Benennungsgebühr abzubuchen. Ist eine Erklärung nach Nr. 10.2 abgegeben worden, so sollen die Benennungsgebühren nur für die dort angegebenen Vertragsstaaten abgebucht werden, sofern dem EPA nicht bis zum Ablauf der Grundfrist ein anderslautender Auftrag zugeht.</p>	<p><b>10. Designation fees</b></p> <p>10.1 It is currently intended to pay <b>seven times</b> the amount of the designation fee. The designation fees for <b>all the EPC contracting states<sup>1</sup> designated in the international application<sup>2</sup></b> are thereby deemed to have been paid (Art. 2 No. 3 RFees).</p> <p>10.2 The declaration in No. 10.1 does not apply. Instead, it is currently intended to pay <b>fewer than seven</b> designation fees for the following <b>EPC contracting states<sup>2</sup> designated in the international application</b>:</p> <p>(4) <input type="text"/> _____</p> <p>(5) <input type="text"/> _____</p> <p>(6) <input type="text"/> _____</p> <p>If contracting states are indicated under No. 10.2, it is requested that no communication under Rule 108(3) EPC be issued for contracting states not thus indicated.</p> <p>10.3 If an <b>automatic debit order</b> has been issued (Section 12), the EPO is authorised, on expiry of the basic period under Rule 107(1)(d) EPC, to debit seven times the amount of the designation fee. If states are indicated under No. 10.2, the EPO will debit designation fees only for those states, unless instructed otherwise before the basic period expires.</p>	<p><b>10. Taxes de désignation</b></p> <p>10.1 Il est actuellement envisagé de payer un montant correspondant à <b>sept fois</b> la taxe de désignation. Les taxes de désignation sont ainsi réputées payées pour <b>tous les Etats contractants de la CBE<sup>1</sup> désignés dans la demande internationale<sup>2</sup></b> (art. 2, point 3 du RRT).</p> <p>10.2 Contrairement à ce qui est indiqué au n° 10.1, il est actuellement envisagé de payer <b>moins de sept</b> taxes de désignation pour les <b>Etats contractants de la CBE<sup>2</sup> suivants désignés dans la demande internationale</b>:</p> <p>(4) <input type="text"/> _____</p> <p>(5) <input type="text"/> _____</p> <p>(6) <input type="text"/> _____</p> <p>Si des Etats contractants sont mentionnés au n° 10.2, prière de ne pas procéder à la signification d'une notification prévue par la règle 108(3) CBE pour les Etats contractants n'y étant pas mentionnés.</p> <p>10.3 Si un <b>ordre de prélèvement automatique</b> est donné (rubrique 12), il est demandé à l'OEB de prélever, à l'expiration du délai normal visé à la règle 107(1)d) CBE, un montant correspondant à sept fois la taxe de désignation. Si une déclaration a été faite au n° 10.2, les taxes de désignation ne sont à prélever que pour les Etats contractants qui y sont indiqués, sauf instruction contraire reçue par l'OEB avant l'expiration du délai normal.</p>

1 Stand bei Drucklegung: 27 Vertragsstaaten, und zwar: / Status when this form was printed: 27 contracting states, namely / Situation à la date d'impression: 27 Etats contractants, à savoir: AT Österreich / Austria / Autriche, BE Belgien / Belgium / Belgique, BG Bulgarien / Bulgaria / Bulgarie, CH / LI Schweiz und Liechtenstein / Switzerland and Liechtenstein / Suisse et Liechtenstein, CY Zypern / Cyprus / Chypre, CZ Tschechische Republik / Czech Republic / République tchèque, DE Deutschland / Germany / Allemagne, DK Dänemark / Denmark / Danemark, EE Estland / Estonia / Estonie, ES Spanien / Spain / Espagne, FI Finnland / Finland / Finlande, FR Frankreich / France / France, GB Vereinigtes Königreich / United Kingdom / Royaume-Uni, GR Griechenland / Greece / Grèce, HU Ungarn / Hungary / Hongrie, IE Irland / Ireland / Irlande, IT Italien / Italy / Italie, LU Luxemburg / Luxembourg / Luxembourg, MC Monaco / Monaco / Monaco, NL Niederlande / Netherlands / Pays-Bas, PT Portugal / Portugal / Portugal, RO Rumänien / Romania / Roumanie, SE Schweden / Sweden / Suède, SI Slowenien / Slovenia / Slovénie, SK Slowakische Republik / Slovak Republic / République slovaque, TR Türkei / Turkey / Turquie

2 Für folgende Staaten nur möglich, falls in der internationalen Anmeldung am oder nach folgendem Tag bestimmt: Slowakische Republik, Bulgarien, Tschechische Republik und Estland: 1. Juli 2002, Slowenien: 1. Dezember 2002, Ungarn: 1. Januar 2003 und Rumänien: 1. März 2003. / For the following states this is possible only if they are designated in the international application on or after the stated date: Slovak Republic, Bulgaria, Czech Republic and Estonia: 1 July 2002, Slovenia: 1 December 2002, Hungary: 1 January 2003 and Romania: 1 March 2003. / En ce qui concerne les Etats suivants seulement si la désignation a été effectuée dans la demande internationale à la date suivante ou à une date ultérieure: République slovaque, Bulgarie, République tchèque et Estonie: 1<sup>er</sup> juillet 2002, Slovénie: 1<sup>er</sup> décembre 2002, Hongrie: 1<sup>er</sup> janvier 2003 et Roumanie: 1<sup>er</sup> mars 2003.

<input checked="" type="checkbox"/> <b>11. Erstreckung des europäischen Patents</b> Bei Zahlung der Erstreckungsgebühr(en) gilt diese Anmeldung auch als wirksamer Erstreckungsantrag für die in der internationalen Anmeldung bestimmten »Erstreckungsstaaten«. Es ist beabsichtigt, diese Gebühr(en) für folgende Staaten zu entrichten:  <table border="0"> <tr><td><input type="checkbox"/></td><td>SI</td><td>Slowenien <sup>1)</sup></td></tr> <tr><td><input type="checkbox"/></td><td>LT</td><td>Litauen</td></tr> <tr><td><input type="checkbox"/></td><td>LV</td><td>Lettland</td></tr> <tr><td><input type="checkbox"/></td><td>AL</td><td>Albanien</td></tr> <tr><td><input type="checkbox"/></td><td>RO</td><td>Rumänien <sup>1)</sup></td></tr> <tr><td><input type="checkbox"/></td><td>MK</td><td>Ehemalige jugoslawische Republik Mazedonien</td></tr> <tr><td><input type="checkbox"/></td><td></td><td></td></tr> </table>	<input type="checkbox"/>	SI	Slowenien <sup>1)</sup>	<input type="checkbox"/>	LT	Litauen	<input type="checkbox"/>	LV	Lettland	<input type="checkbox"/>	AL	Albanien	<input type="checkbox"/>	RO	Rumänien <sup>1)</sup>	<input type="checkbox"/>	MK	Ehemalige jugoslawische Republik Mazedonien	<input type="checkbox"/>			<b>11. Extension of the European patent</b>  On payment of the extension fee(s) this application is also deemed to be a request for extension to all the "extension states" designated in the international application. It is intended to pay the fee(s) for the following states:  <table border="0"> <tr><td></td><td>Slovenia <sup>1)</sup></td></tr> <tr><td></td><td>Lithuania</td></tr> <tr><td></td><td>Latvia</td></tr> <tr><td></td><td>Albania</td></tr> <tr><td></td><td>Romania <sup>1)</sup></td></tr> <tr><td></td><td>Former Yugoslav Republic of Macedonia</td></tr> <tr><td></td><td></td></tr> </table>		Slovenia <sup>1)</sup>		Lithuania		Latvia		Albania		Romania <sup>1)</sup>		Former Yugoslav Republic of Macedonia			<b>11. Extension des effets du brevet européen</b> La taxe (Les taxes) d'extension payée(s), la présente demande est également réputée être une demande d'extension à tous les »Etats autorisant l'extension« désignés dans la demande internationale. Il est envisagé de payer la taxe (les taxes) d'extension pour les Etats suivants:  <table border="0"> <tr><td></td><td>Slovénie <sup>1)</sup></td></tr> <tr><td></td><td>Lituanie</td></tr> <tr><td></td><td>Lettonie</td></tr> <tr><td></td><td>Albanie</td></tr> <tr><td></td><td>Roumanie <sup>1)</sup></td></tr> <tr><td></td><td>Ex-République yougoslave de Macédoine</td></tr> <tr><td></td><td></td></tr> </table>		Slovénie <sup>1)</sup>		Lituanie		Lettonie		Albanie		Roumanie <sup>1)</sup>		Ex-République yougoslave de Macédoine		
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	Ex-République yougoslave de Macédoine																																																		
<p><sup>1)</sup> Für Slowenien und Rumänien nur möglich, falls in der internationalen Anmeldung bis 30. November 2002 (Slowenien) oder bis 28. Februar 2003 (Rumänien) bestimmt. / For Slovenia and Romania this is possible only if they are designated in the international application up to 30 November 2002 (Slovenia) or 28 February 2003 (Romania). / En ce qui concerne la Slovénie et la Roumanie, seulement si la désignation a été effectuée dans la demande internationale jusqu'au 30 novembre 2002 (Slovénie) ou jusqu'au 28 février 2003 (Roumanie).</p> <p><sup>2)</sup> Platz für Staaten, mit denen »Erstreckungsabkommen« nach Drucklegung dieses Formblattes in Kraft treten und die in der internationalen Anmeldung bestimmt waren. / Space for States with which "extension agreements" enter into force after this form has been printed and which were designated in the international application. / Prévu pour des Etats à l'égard desquels des »accords d'extension« entreront en vigueur après l'impression du présent formulaire et qui ont été désignés dans la demande internationale.</p>																																																			
<input type="checkbox"/> <b>12. Automatischer Abbuchungsauftrag (Nur möglich für Inhaber von beim EPA geführten laufenden Konten)</b>  Das EPA wird beauftragt, nach Maßgabe der Vorschriften über das automatische Abbuchungsverfahren fällige Gebühren und Auslagen vom untenstehenden laufenden Konto abzubuchen. In Bezug auf die Benennungsgebühren wird auf Feld 10.3 verwiesen. Das EPA wird ferner beauftragt, die Erstreckungsgebühren für jeden in Feld 11 angekreuzten »Erstreckungsstaat« bei Ablauf der Grundfrist zu ihrer Zahlung abzubuchen, sofern ihm nicht bis dahin ein anderslautender Auftrag zugeht.  Nummer und Kontoinhaber	<b>12. Automatic debit order (for EPO deposit account holders only)</b>  The EPO is hereby authorised, under the Arrangements for the automatic debiting procedure, to debit from the deposit account below any fees and costs falling due. For designation fees, see Section 10.3. The EPO is also authorised, on expiry of the basic period for paying the extension fees, to debit those fees for each of the "extension states" marked with a cross in Section 11, unless instructed otherwise before the said period expires.  Number and account holder	<b>12. Ordre de prélèvement automatique (uniquement possible pour les titulaires de comptes courants ouverts auprès de l'OEB)</b> Par la présente, il est demandé à l'OEB de prélever du compte courant ci-dessous les taxes et frais venant à échéance, conformément à la réglementation relative au prélèvement automatique. Pour les taxes de désignation, se reporter à la rubrique 10.3. Il est en outre demandé à l'OEB de prélever, à l'expiration du délai normal prévu pour leur paiement, les taxes d'extension pour chaque »Etat autorisant l'extension« coché à la rubrique 11, sauf instruction contraire reçue avant l'expiration de ce délai.  Numéro et titulaire du compte																																																	
<input type="checkbox"/> <b>13. Eventuelle Rückzahlungen auf das beim EPA geführte laufende Konto</b>  Nummer und Kontoinhaber	<b>13. Any reimbursement to EPO deposit account</b>  Number and account holder	<b>13. Remboursements éventuels à effectuer sur le compte courant ouvert auprès de l'OEB</b> Numéro et titulaire du compte																																																	
<b>14. Unterschrift(en) des (der) Anmelder(s) oder Vertreters</b>   Ort / Datum  Für Angestellte (Art. 133(3) EPÜ) mit allgemeiner Vollmacht:  Nr.  Name(n) des (der) Unterzeichneten bitte in Druckschrift wiederholen. Bei juristischen Personen bitte auch die Stellung des (der) Unterzeichneten innerhalb der Gesellschaft in Druckschrift angeben.	<b>14. Signature(s) of applicant(s) or representative</b>  Jose Antonio Unzueta Arasagasti  Place / Date MADRID, 21 December 2005  For employees (Art. 133(3) EPC) having a general authorisation:  No.  Please print name(s) under signature(s). In the case of legal persons, the position of the signatory within the company should also be printed.	<b>14. Signature(s) du (des) demandeur(s) ou du mandataire</b>  Lieu / Date  Pour les employés (art. 133(3) CBE) disposant d'un pouvoir général:  N°  Le ou les noms des signataires doivent être indiqués en caractères d'imprimerie. S'il s'agit d'une personne morale, la position occupée au sein de celle-ci par le ou les signataires doit également être indiquée en caractères d'imprimerie.																																																	

**VERTICAL TRACTION SYSTEM FOR ELEVATORS WITH BUILT-IN ADJUSTMENT,  
SAFETY AND EMERGENCY MEANS**

5      Vertical traction system for elevators with built-in adjustment, safety and emergency means.

The object of the present invention patent consists of an innovative lift elevation system with built-in adjustment, safety and rescue means.

10      Due to the continuous demand in the lift market for products that are increasingly well designed and sophisticated, elevation equipment that is characterised as follows is currently being sought.

- Elimination of upper machine room
- 15      - Improved performance of equipment for reducing energy consumption
- Reducing motor power
- Eliminating the use of oil in the lifts so that they fit in with the ecological philosophy of today
- Increasing the range and capacity of lifts with a small sized system
- 20      - Increasing the manoeuvring speed of lifts without cost increase, even with a single piece of equipment so that part of the current costs can be reduced
- Unification and standardisation of equipment with production cost reduction
- Facilitating the ways to rescue lift passengers, and even making them function without electrical current, by using small batteries
- 25      - Making the motors generators and thus even producing energy and making it regenerative
- Achieving an electrical energy consumption reduction of 60% of what is currently being used

30      All of the present drawbacks are surpassed with the use of the vertical elevator traction system with built-in adjustment, safety and emergency means, object of the present disclosure.

35      Said system differs from what is currently available on the market since it offers a wider field of application from 4 to 26 people; it does not require a machine room; all of its models use a tractor machine; it does not require oil for its maintenance; it offers high performance and low installed power; it features a capacity for high-speed use.

40      The functioning, as well as the nature of the system described herein will be better understood with the aid of the illustrations attached at the end of the patent.

- Figure 1: Right profile view of the motor
- Figure 2: Raised section view of the motor
- Figure 3: Left profile view of the motor
- Figure 4: Right profile view of the elevator-motor assembly
- 5 Figure 5: Left profile view of the elevator-motor assembly

The system described herein is mainly based on motor equipment as seen in figures 1, 2 and 3, consisting of a solid and robust body that provides movement to the cabin and counterweight. It is basically made up of a rotor (1), an asynchronous stator (2), a  
10 traction pulley (3), an electromechanical break (7) and a movement detection system.

### **Rotor and asynchronous stator**

15 Thus named due to the rotating magnetic field that originates within its body, it has a small slip, minimal and reduced, obtained by the motor design and production system. The asynchronous concept implies lower supply costs than synchronous motors. What is obtained with this rotor model is similar in features to the former one, since it is provided with very small slips (between 2% and 5%) when it is common to reach up to  
20 15%. This implies that the performance is greater and consumption is lesser. The rotor (1) features a "squirrel cage" made of copper in the form of a quantity of around 66, approximately 5 X 16 mm, rectangular bars in a circle, with an inclination of 8% of the bars, and a diameter of 280 mm and central ring.

25 The stator (2) is made up of 0.5 mm-thick magnetic sheets and 72 winding grooves, multiple of 12 poles. There are different types of winding threads depending on the power to be obtained. This is characterised by the total length of the package, there being different types.

30 The external circular geometrical conception is always the same, independent of the power, which simplifies the design of the assembly.

The set of stator sheets (2) is fixed between two rings with 8 through screws that form the fixed statorical set. The assembly is mounted on two lateral covers (6) that it  
35 incorporates, screwed onto a part where, in turn and on two bearings, the axis (4) and rotor (1) mentioned above are situated.

As forced, unidirectional ventilation, the air crosses the entire rotor-stator assembly from one end to another, as can be observed in figure 2, being closed at the opposite  
40 end to the pulley with a hollow cover (5) where the warm air is absorbed and expelled



to the exterior. The maximum temperatures that any internal part of the motor acquires are lower than 65° C when fully operating.

5 The technological advancement is mainly concentrated in the concept of the low slippage and high torque asynchronous motor, unknown up to the present in this field. This apparatus makes the use of permanent magnet synchronous motors obsolete, being much more expensive as regards their construction and the different models being built to provide for the different power demands, since it can offer, by way of a single model, powers from 2.2 Kw to 20 Kw, by varying frequency and voltage of the  
10 input current. It is also characterised by the fact that it does not feature gears since its action is based on direct motor-pulley traction.

Another advantage found is that its working life is lengthened due to the more bearable type of work it carries out with regards maximum temperatures, guaranteeing a working  
15 life of between 30 and 60 years.

#### **TRACTION PULLEY**

20 The traction pulley (3) is rigidly incorporated into the very axis (4) of the rotor (1), so that it transmits the motor torque to the lift by way of the wires that twist 180° around its upper section. On said motor pulley (3), a flat, cylindrical section is situated where the brake shoe operates it directly and the brake torque required by the elevator is executed.

25 The motor pulley (3) is of variable size depending on the number of wiring grooves for greater or lesser passenger capacity and oscillates between a minimum of three wires up to seven. It always has a fixed diameter of 320 mm.

#### **ELECTROMAGNETIC BRAKE**

30 The electromagnetic brake (7) made up of electromagnet with overdrive current and brake shoes on the pulley plate (3) described. It functions by holding the braked  
35 elevator at rest.

#### **MOVEMENT DETECTION SYSTEM**

Formed by a digital encoder (8) and joined elastically to the rotor axis (4) in order to transmit information on the rotor (1) rotation speed. This provides high security and reliability of the component.

5     Within the incorporation of the system object of the present invention patent, is the positioning in an accessible place. As can be seen in figures 4 and 5, for this purpose the machine is situated at the upper part of the lift shaft resting on two sections (9) on the wall of the building itself, where the pressure force is transmitted, adequately isolated.

10    Likewise the motor – lift joint system includes an electronic function protocol for rescuing people in two possible ways: a) automatic rescue due to lack of exterior energy; b) manual rescue with exterior current.

15    For this purpose it requires a manoeuvre box and another emergency access normally located at the last stop. In this way, 84 V batteries (7 units of 12 V) are incorporated in order to make the motor function directly by way of a frequency shifter as well as in order to open the door of the lift.

20    With system a), in case of a lack of exterior current, the lift directly accesses the floor level and opens the lift door, thus freeing the trapped persons, carrying out the action automatically. This system tends to lower the lift but it raises it depending on whether the minimum torque is insufficient for executing the manoeuvre, thus inverting the turning direction. If it is sufficient, it goes directly down to the floor below. In both  
25    cases it ends by stopping, opening its doors and deactivating the rescue system. If the emergency is produced at the floor level itself, the doors open immediately.

With system b), in case there should exist external electrical current and the movement of the cabin is carried out manually, since some safety contact is deactivated. For this  
30    purpose it is manually bridged and the cabin is moved, under control, electrically to the floor level and the doors are opened.

The system is provided with visual and acoustic movement detectors of the arrival of the cabin to a floor level. Therefore the rescue procedure is carried out electro-  
35    mechanically, automatically or manually, in complete safety.

As can be observed, the present invention patent is a system that is innovative in the market, with features that are superior to what currently exists and improves the currently existing technique, allowing the generation of higher quality service in the  
40    traction system, and acting more quickly and in a more economical way.

And, having sufficiently described the nature and functions of the system, as well as a practical embodiment of it, it only needs be added that in both the shape and materials, size and execution may undergo modifications, as long as they do not substantially alter the characteristics claimed in the section below.

**CLAIMS**

- 5           1.     Vertical elevator traction system with built-in adjustment, safety and emergency means, characterised in that it consists of a motor made up of a rotor (1), an asynchronous stator (2), a traction pulley (3), an electro-mechanical brake (7) and a movement detection system.
- 10          2.     Vertical elevator traction system with built-in adjustment, safety and emergency means according to the previous claim, characterised in that the rotor (1) includes a "squirrel cage" made of copper in the form of rectangular bars arranged in a circle, with an inclination its bars of approximately 8% and with a diameter of 280 mm and a central ring.
- 15          3.     Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the stator (2) is made up of a set of thin sheets and 72 winding grooves, a multiple of 12 poles, said sheet being fixed between two rings with through screws that make up the fixed statorical set.
- 20          4.     Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the electro-mechanical brake (7) is made up of an electromagnet with an over-excitation current and brake shoes on the pulley.
- 25          5.     Vertical elevator traction system with built-in adjustment, safety and emergency means, according to the first and the previous claims, characterised in that the traction pulley (3) is rigidly incorporated in the very axis (4) of the rotor (1), and on which there is a flat, cylindrical zone where it is activated directly by a brake shoe that regulates the brake torque required by the elevator.
- 30          6.     Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the movement detection system is made up of a digital encoder (8) elastically joined to the axis of the rotor (4) that is in charge of transmitting the information on the rotation speed of the rotor (1).
- 35          7.     Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that it includes continuous current batteries incorporated within it in order to make
- 40

the motor work directly by way of a frequency shifter in the absence of exterior power current.

- 5
8. Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the system does not need a machine room since it is installed in the lift shaft itself, upon a metal bed, which in turn rests on the walls of the supporting building.

**MODIFIED CLAIMS**

**[received from the International Office, 28 November 2004 (28-11-03): claims 1-8  
replace by a modified claim 1-3]**

5

1. Vertical elevator traction system with built-in regulation, safety and emergency means, of the kind that includes an electrical motor made up of a stator (2) and a rotor (1), a traction pulley (3) integrated into the rotor (2), and electromechanical brake (7) what acts by way of shoes on a cylindrical surface integrated into the assembly of traction pulley (3) and rotor (1), a movement detection system and an emergency system for cases of lack of energy, characterised in that the electrical motor is an asynchronous electrical motor whose input current may vary in frequency and tension so that the motor should reach a variable electrical power with values of between a minimum of 2.2 Kw to a maximum of 20 kkw, in order to allow it to lift different loads with the same model of motor.  
10
2. Vertical elevator traction system with built-in regulation, safety and emergency means according to claim 1, characterised in that said asynchronous stator (2) is made up of a set of thin sheets joined together by through screws and 72 winding grooves, multiple of 12 poles, and in that the rotor (1) is of the "squirrel cage" type, made of copper and with a diameter of 280 mm and central ring, in the shape of rectangular bars in a circle, said bars having a size of approximately 5 x 16 mm and said bars having an inclination of around 8%.  
15  
20  
25
3. Vertical elevator traction system with built-in regulation, safety and emergency means according to claim 1, characterised in that said emergency system for cases of lack of energy is made up of 84 V batteries that directly activate the electrical motor by way of a frequency shifter, which facilitates completing the manoeuvre that allows the elevator to reach the floor level and open its doors.  
30

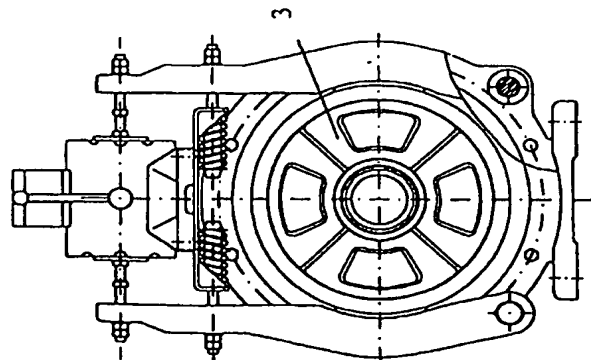


FIGURE 1

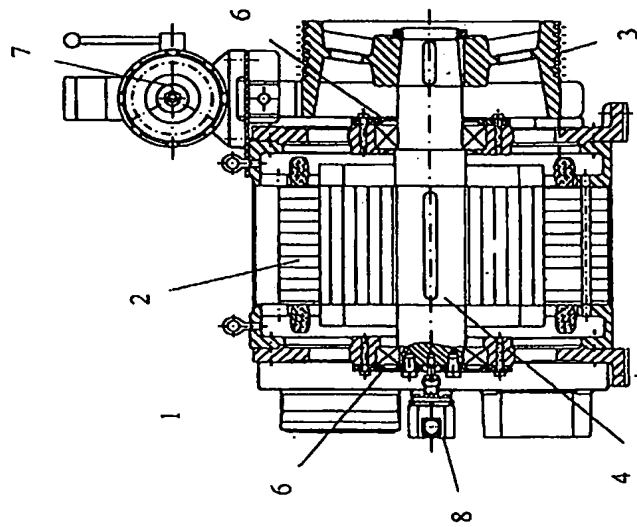


FIGURE 2

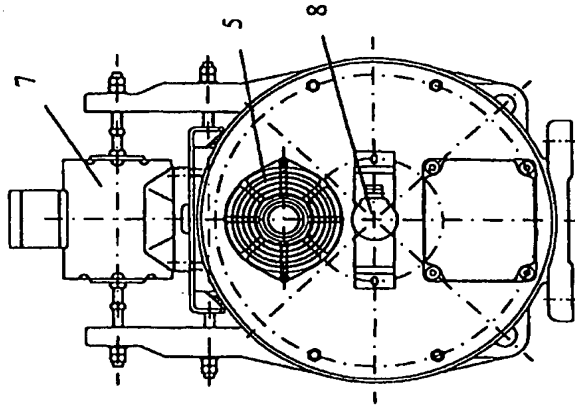


FIGURE 3

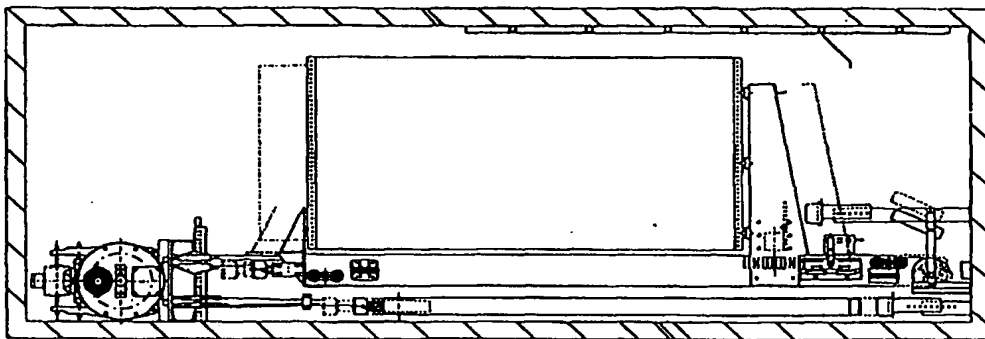


FIGURE 5

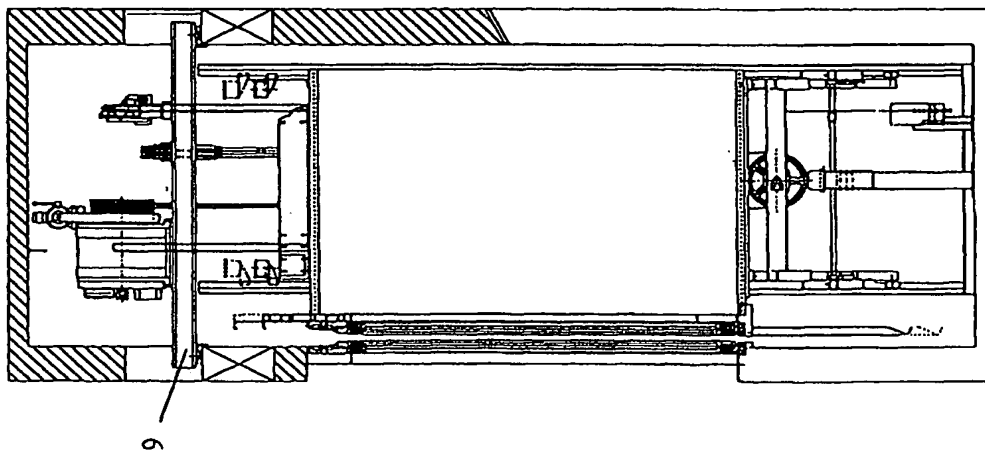


FIGURE 4



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ ES03/00232

A. CLASSIFICATION OF SUBJECT MATTER		
IPC <sup>7</sup> B66B11/04		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC <sup>7</sup> B66B, H02K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPODOC, WPI, CIBEPAT, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	EP 1298084 A (Kabushiki Kaisha Meidensha) 02.04.2003 Paragraphs 29 y 31	1,4,5 2,3,6-8
X A	EP 1069068 A (Inventio AG) 17.01.2001 Paragraphs 9-14	1,4,5 2,3,6-8
X A	US 5244060 A (Tanaka et al.) 14.09.1993 Column 2, line 60- Column 4, line 50	1,4,5 2,3,6-8
X A	US 6371248 B1 (Cholinski.) 16.04.2002 Column 1, line 60- Column 2, line 65	1,4,5 2,3,6-8
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"B" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>		
Date of the actual completion of the international search		Date of mailing of the international search report
22 September 2003 (22.09.03)		29 September 2003 (29.09.03)
Name and mailing address of the ISA/  SPTO		Authorized officer
Facsimile No.		Telephone No.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No  
PCT/ ES03/00232

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1298084 A	02.04.2003	EP 1298084 A KR2003027685A JP2003104666A US2003070881A1 CNI410338A	02.04.2003 07.04.2003 09.04.2003 17.04.2003 16.04.2003
EP 1069068 A	17.01.2001	EP 1069068 A	17.01.2001
US 5244060 A	14.09.1993	US 5244060 A	14.09.1993
US 6371248 B1	16.04.2002	US 6371248 B1 EP1013598 A1 JP200219444 A CA2291949 A1	16.04.2002 28.06.2000 08.08.2000 14.06.2000



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WO 2004/103881

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Nr. der Anmeldung (des Patents) / Application/Patent No. /  
N° de la demande (du brevet)

**WO 2004/103881**

Ich (Wir) / I (We) / Je (Nous)<sup>2</sup>

**AZURMENDI INCHAUSTI, Juan Jose**  
**Landalucia, 22,**  
**E-01015 Vitoria**  
**España**

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à agir en mon (notre) nom dans toute procédure instituée par la Convention sur le brevet européen et concernant la (les) demande(s) de brevet ou le (les) brevet(s) européen(s)<sup>4</sup> suivant(s) et à recevoir des paiements en mon (notre) nom:

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Le présent pouvoir vaut également pour les demandes divisionnaires européennes qui pourraient être déposées.

☐ Untervollmacht kann erteilt werden. / Sub-authorisation may be given. / Le pouvoir pourra être délégué.

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Ort/Place/Lieu: **Madrid**

Datum/Date: **19 December 2005**

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The form must bear the personal signature(s) of the authorisator(s) (in the case of legal persons, that of the officer empowered to sign). After the signature please print the name(s) of the signatory(ies) adding, in the case of legal persons, his (their) position within the company. /  
Le formulaire doit être signé de la propre main du (des) mandant(s) (dans le cas de personnes morales, de la personne ayant qualité pour signer). Veuillez ajouter en caractères d'imprimerie, après la signature, le (les) nom(s) du (des) signataire(s) en mentionnant, dans le cas de personnes morales, ses (leurs) fonctions au sein de la société.

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EUROPEAN PATENT OFFICE  
Directorate  
D-80298 MÜNCHEN  
GERMANY/ALEMANIA

YOUR/REF.:

OUR/REF.: PCT104/EP

OFFICE OF: Madrid

DATE: 21/12/2005

**REF.: ENTRY INTO THE EUROPEAN PHASE BEFORE THE EPO  
FOR INTERNATIONAL APPLICATION N° PCT/ES2003/000232,  
WO 2004/103881.**

**APPLICANTS: LASA BERASATEGUI, Javier; AZURMENDI  
INCHAUSTI, Juan Jose.**

Dear Sirs,

Attached please find:

1. Form 1200 (Entry into the European Phase before the EPO).
2. Power of Attorneys issued by the applicants in favour of Jose Antonio Urizar Anasagasti.
3. Form 1010 duly completed and signed, along with a copy of the receipt of the deposit of 2209 euros in the EPO account.
4. Form 1037 for acknowledge of receipt of the documents.

Respectfully,

  
JOSE ANTONIO URIZAR ANASAGASTI  
Authorized Representative 54190



An das Europäische Patentamt

To the European Patent Office

A l'Office européen des brevets

1

**Eintritt in die  
europäische Phase  
(EPA als Bestimmungsamt  
oder ausgewähltes Amt)**

**Entry into the  
European phase  
(EPO as designated or  
elected Office)**

**Entrée dans la  
phase européenne  
(l'OEB agissant en qualité  
d'office désigné ou élu)**

Europäische Anmeldenummer oder, falls nicht bekannt, PCT-Aktenzeichen oder PCT-Veröffentlichungsnummer	European application number, or, if not known, PCT application or publication number <b>WO 2004/103881</b>	Numéro de dépôt de la demande de brevet européen ou, à défaut, numéro de dépôt PCT ou de publication PCT <b>03727512.0</b>
Zeichen des Anmelders oder Vertreters (max. 15 Positionen)	Applicant's or representative's reference (max. 15 spaces) <b>PCT104/EP</b>	Référence du demandeur ou du mandataire (15 caractères ou espaces au maximum)
<p><input checked="" type="checkbox"/> 1. <b>Anmelder</b> Die Angaben über den (die) Anmelder sind in der internationalen Veröffentlichung enthalten oder vom Internationalen Büro nach der internationalen Veröffentlichung vermerkt worden.</p> <p><input type="checkbox"/> Änderungen, die das Internationale Büro noch nicht vermerkt hat, sind auf einem Zusatzblatt angegeben. <b>Zustellanschrift</b> (siehe Merkblatt II, 1)</p>	<p>1. <b>Applicant</b> Indications concerning the applicant(s) are contained in the international publication or recorded by the International Bureau after the international publication.</p> <p>Changes which have not yet been recorded by the International Bureau are set out on an additional sheet. <b>Address for correspondence</b> (see Notes II, 1)</p>	<p>1. <b>Demandeur</b> Les indications concernant le(s) demandeur(s) figurent dans la publication internationale ou ont été enregistrées par le Bureau international après la publication internationale.</p> <p>Les changements qui n'ont pas encore été enregistrés par le Bureau international sont indiqués sur une feuille additionnelle. <b>Adresse pour la correspondance</b> (voir notice II, 1)</p>
<p>2. <b>Vertreter</b> <b>Name</b> (Nur einen Vertreter angeben, der in das europäische Patentregister eingetragen und an den zugestellt wird) <b>Geschäftsanschrift</b> <b>Telefon</b> <b>Telefax</b>      <b>Telax</b></p> <p><input type="checkbox"/> Weiterer(r) Vertreter auf Zusatzblatt</p>	<p>2. <b>Representative</b> <b>Name</b> (Name only one representative who will be listed in the Register of European Patents and to whom notification will be made) <b>Jose Antonio Urizar Anasagasti</b> <b>Address of place of business</b> <b>C/Victor de la Sema, 3-5 (Parking)</b> <b>28018 MADRID, SPAIN</b> <b>Telephones</b> <b>+34-91-415-08-43</b> <b>Fax</b>      <b>Telax</b> <b>+34-91-415-38-88</b> Additional representative(s) on additional sheet</p>	<p>2. <b>Mandataire</b> <b>Nom</b> (N'indiquer qu'un seul mandataire, qui sera inscrit au Registre européen des brevets et auquel signification sera faite) <b>Adresse professionnelle</b> <b>Téléphone</b> <b>Téléfax</b>      <b>Telax</b></p> <p>Autre(s) mandataire(s) sur une feuille additionnelle</p>
<p>3. <b>Vollmacht</b> <input type="checkbox"/> Einzelvollmacht ist beigelegt. <input type="checkbox"/> Allgemeine Vollmacht ist registriert unter Nummer: <input checked="" type="checkbox"/> Allgemeine Vollmacht ist eingereicht, aber noch nicht registriert. <input type="checkbox"/> Die beim EPA als PCT-Anmeldeamt eingereichte Vollmacht schließt ausdrücklich die europäische Phase ein.</p>	<p>2. <b>Authorisation</b> Individual authorisation is attached. General authorisation has been registered under No: A general authorisation has been filed, but not yet registered. The authorisation filed with the EPO as PCT receiving Office expressly includes the European phase.</p>	<p>2. <b>Pouvoir</b> Un pouvoir spécial est joint. Un pouvoir général a été enregistré sous le n°: Un pouvoir général a été déposé, mais n'est pas encore enregistré. Le pouvoir général déposé à l'OEB agissant en qualité d'office récepteur au titre du PCT s'applique expressément à la phase européenne.</p>

EPA/EPO/OEB Form 1200.1 12.03

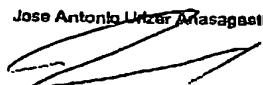
1

Empf.zeit:21/12/2005 12:32

Empf.nr.:590 P.002

**Zur Kasse**  
**E 2.209.7 (ii)**

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<input checked="" type="checkbox"/> <b>11. Erstreckung des europäischen Patents</b> Bei Zahlung der Erstreckungsgebühren gilt diese Anmeldung auch als wirksamer Erstreckungsantrag für die in der internationalen Anmeldung bestimmten »Erstreckungsstaaten«. Es ist beabsichtigt, diese Gebühren für folgende Staaten zu entrichten:  <table border="0"> <tr><td><input type="checkbox"/></td><td>SI</td><td>Slowenien<sup>1)</sup></td></tr> <tr><td><input type="checkbox"/></td><td>LT</td><td>Litauen</td></tr> <tr><td><input type="checkbox"/></td><td>LV</td><td>Lettland</td></tr> <tr><td><input type="checkbox"/></td><td>AL</td><td>Albanien</td></tr> <tr><td><input type="checkbox"/></td><td>RO</td><td>Rumänien<sup>1)</sup></td></tr> <tr><td><input type="checkbox"/></td><td>MK</td><td>Ehemalige jugoslawische Republik Mazedonien</td></tr> <tr><td><input type="checkbox"/></td><td>_____</td><td>_____</td></tr> </table>	<input type="checkbox"/>	SI	Slowenien <sup>1)</sup>	<input type="checkbox"/>	LT	Litauen	<input type="checkbox"/>	LV	Lettland	<input type="checkbox"/>	AL	Albanien	<input type="checkbox"/>	RO	Rumänien <sup>1)</sup>	<input type="checkbox"/>	MK	Ehemalige jugoslawische Republik Mazedonien	<input type="checkbox"/>	_____	_____	<b>11. Extension of the European patent</b>  On payment of the extension fee(s) this application is also deemed to be a request for extension to all the "extension states" designated in the international application. It is intended to pay the fee(s) for the following states:  <table border="0"> <tr><td>_____</td><td>Slovenia<sup>1)</sup></td></tr> <tr><td>_____</td><td>Lithuania</td></tr> <tr><td>_____</td><td>Latvia</td></tr> <tr><td>_____</td><td>Albania</td></tr> <tr><td>_____</td><td>Romania<sup>1)</sup></td></tr> <tr><td>_____</td><td>Former Yugoslav Republic of Macedonia</td></tr> <tr><td>_____</td><td>_____</td></tr> </table>	_____	Slovenia <sup>1)</sup>	_____	Lithuania	_____	Latvia	_____	Albania	_____	Romania <sup>1)</sup>	_____	Former Yugoslav Republic of Macedonia	_____	_____	<b>11. Extension des effets du brevet européen</b> La taxe (Les taxes) d'extension payé(e), la présente demande est également réputée être une demande d'extension à tous les »Etats autorisant l'extension« désignés dans la demande internationale. Il est envisagé de payer la taxe (les taxes) d'extension pour les Etats suivants:  <table border="0"> <tr><td>_____</td><td>Slovénie<sup>1)</sup></td></tr> <tr><td>_____</td><td>Lituanie</td></tr> <tr><td>_____</td><td>Lettonie</td></tr> <tr><td>_____</td><td>Albanie</td></tr> <tr><td>_____</td><td>Roumanie<sup>1)</sup></td></tr> <tr><td>_____</td><td>Ex-République yougoslave de Macédoine</td></tr> <tr><td>_____</td><td>_____</td></tr> </table>	_____	Slovénie <sup>1)</sup>	_____	Lituanie	_____	Lettonie	_____	Albanie	_____	Roumanie <sup>1)</sup>	_____	Ex-République yougoslave de Macédoine	_____	_____
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<p><small>1) Für Slowenien und Rumänien nur möglich, falls in der internationalen Anmeldung bis 20. November 2002 (Slowenien) oder bis 28. Februar 2002 (Rumänien) bestimmt. / For Slovenia and Romania this is possible only if they are designated in the international application up to 20 November 2002 (Slovenia) or 28 February 2002 (Romania). / En ce qui concerne la Slovénie et la Roumanie, seulement si la désignation a été effectuée dans la demande internationale jusqu'au 20 novembre 2002 (Slovénie) ou jusqu'au 28 février 2002 (Roumanie).</small></p> <p><small>2) Platz für Staaten, mit denen »Erstreckungsabkommen« nach Drucklegung dieses Formblatts in Kraft treten und die in der internationalen Anmeldung bestimmt waren. / Space for States with which "extension agreements" enter into force after this form has been printed and which were designated in the international application. / Prévu pour des Etats à l'égard desquels des »accords d'extension« entrant en vigueur après l'impression du présent formulaire et qui ont été désignés dans la demande internationale.</small></p>																																																			
<input type="checkbox"/> <b>12. Automatischer Abbuchungsauftrag (Nur möglich für Inhaber von beim EPA geführten laufenden Konten)</b>  Das EPA wird beauftragt, nach Maßgabe der Vorschriften über das automatische Abbuchungsverfahren fällige Gebühren und Auslagen vom untenstehenden laufenden Konto abzubuchen. In Bezug auf die Benennungsgebühren wird auf Feld 10.3 verwiesen. Das EPA wird ferner beauftragt, die Erstreckungsgebühren für jeden in Feld 11 angekreuzten »Erstreckungsstaat« bei Ablauf der Grundfrist zu ihrer Zahlung abzubuchen, sofern ihm nicht bis dahin ein anderslautender Auftrag zugeht.  Nummer und Kontoinhaber	<b>12. Automatic debit order (for EPO deposit account holders only)</b>  The EPO is hereby authorised, under the Arrangements for the automatic debiting procedure, to debit from the deposit account below any fees and costs falling due. For designation fees, see Section 10.3. The EPO is also authorised, on expiry of the basic period for paying the extension fees, to debit those fees for each of the "extension states" marked with a cross in Section 11, unless instructed otherwise before the said period expires.  Number and account holder	<b>12. Ordre de prélèvement automatique (uniquement possible pour les titulaires de comptes courants ouverts auprès de l'OEB)</b> Par la présente, il est demandé à l'OEB de prélever du compte courant ci-dessous les taxes et frais venant à échéance, conformément à la réglementation relative au prélèvement automatique. Pour les taxes de désignation, se reporter à la rubrique 10.3. Il est en outre demandé à l'OEB de prélever, à l'expiration du délai normal prévu pour leur paiement, les taxes d'extension pour chaque »Etat autorisant l'extension« coché à la rubrique 11, sauf instruction contraire reçue avant l'expiration de ce délai.  Numéro et titulaire du compte																																																	
<input type="checkbox"/> <b>13. Eventuelle Rückzahlungen auf das beim EPA geführte laufende Konto</b>  Nummer und Kontoinhaber	<b>13. Any reimbursement to EPO deposit account</b>  Number and account holder	<b>13. Remboursements éventuels à effectuer sur le compte courant ouvert auprès de l'OEB</b>  Numéro et titulaire du compte																																																	
<b>14. Unterschrift(en) des (der) Anmelders(s) oder Vertreters</b>  _____ Ort / Datum  Für Angestellte (Art. 133(3) EPO) mit allgemeiner Vollmacht:  Nr.  <small>Namens des (der) Unterzeichneten bitte in Druckschrift wiederholen. Bei juristischen Personen bitte auch die Stellung des (der) Unterzeichneten innerhalb der Gesellschaft in Druckschrift angeben.</small>	<b>14. Signature(s) of applicant(s) or representative</b>  Jose Antonio Utrera Anasagasti  Place / Date MADRID, 21 December 2005  For employees (Art. 133(3) EPC) having a general authorisation:  No.  <small>Please print name(s) under signature(s). In the case of legal persons, the position of the signatory within the company should also be printed.</small>	<b>14. Signature(s) du (des) demandeur(s) ou du mandataire</b>  _____ Lieu / Date  Pour les employés (art. 133(3) CBE) disposant d'un pouvoir général:  N°  <small>Le ou les noms des signataires doivent être indiqués en caractères d'imprimerie. S'il s'agit d'une personne morale, la position occupée au sein de celle-ci par le ou les signataires doit également être indiquée en caractères d'imprimerie.</small>																																																	

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**VERTICAL TRACTION SYSTEM FOR ELEVATORS WITH BUILT-IN ADJUSTMENT,  
SAFETY AND EMERGENCY MEANS**

5 Vertical traction system for elevators with built-in adjustment, safety and emergency means.

The object of the present invention patent consists of an innovative lift elevation system with built-in adjustment, safety and rescue means.

10 Due to the continuous demand in the lift market for products that are increasingly well designed and sophisticated, elevation equipment that is characterised as follows is currently being sought.

- Elimination of upper machine room
- 15 - Improved performance of equipment for reducing energy consumption
- Reducing motor power
- Eliminating the use of oil in the lifts so that they fit in with the ecological philosophy of today
- Increasing the range and capacity of lifts with a small sized system
- 20 - Increasing the manoeuvring speed of lifts without cost increase, even with a single piece of equipment so that part of the current costs can be reduced
- Unification and standardisation of equipment with production cost reduction
- Facilitating the ways to rescue lift passengers, and even making them function without electrical current, by using small batteries
- 25 - Making the motors generators and thus even producing energy and making it regenerative
- Achieving an electrical energy consumption reduction of 60% of what is currently being used

30 All of the present drawbacks are surpassed with the use of the vertical elevator traction system with built-in adjustment, safety and emergency means, object of the present disclosure.

35 Said system differs from what is currently available on the market since it offers a wider field of application from 4 to 26 people; it does not require a machine room; all of its models use a tractor machine; it does not require oil for its maintenance; it offers high performance and low installed power; it features a capacity for high-speed use.

40 The functioning, as well as the nature of the system described herein will be better understood with the aid of the illustrations attached at the end of the patent.



**CLAIMS**

- 5 1. Vertical elevator traction system with built-in adjustment, safety and emergency means, characterised in that it consists of a motor made up of a rotor (1), an asynchronous stator (2), a traction pulley (3), an electro-mechanical brake (7) and a movement detection system.
- 10 2. Vertical elevator traction system with built-in adjustment, safety and emergency means according to the previous claim, characterised in that the rotor (1) includes a "squirrel cage" made of copper in the form of rectangular bars arranged in a circle, with an inclination its bars of approximately 8% and with a diameter of 280 mm and a central ring.
- 15 3. Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the stator (2) is made up of a set of thin sheets and 72 winding grooves, a multiple of 12 poles, said sheet being fixed between two rings with through screws that make up the fixed statorical set.
- 20 4. Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the electro-mechanical brake (7) is made up of an electromagnet with an over-excitation current and brake shoes on the pulley.
- 25 5. Vertical elevator traction system with built-in adjustment, safety and emergency means, according to the first and the previous claims, characterised in that the traction pulley (3) is rigidly incorporated in the very axis (4) of the rotor (1), and on which there is a flat, cylindrical zone where it is activated directly by a brake shoe that regulates the brake torque required by the elevator.
- 30 6. Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the movement detection system is made up of a digital encoder (8) elastically joined to the axis of the rotor (4) that is in charge of transmitting the information on the rotation speed of the rotor (1).
- 35 7. Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that it includes continuous current batteries incorporated within it in order to make
- 40

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the motor work directly by way of a frequency shifter in the absence of exterior power current.

- 5      8.      Vertical elevator traction system with built-in adjustment, safety and emergency means according to the first claim, characterised in that the system does not need a machine room since it is installed in the lift shaft itself, upon a metal bed, which in turn rests on the walls of the supporting building.

**MODIFIED CLAIMS**

**[received from the International Office, 28 November 2004 (28-11-03): claims 1-8  
replace by a modified claim 1-3]**

- 5
1. Vertical elevator traction system with built-in regulation, safety and emergency means, of the kind that includes an electrical motor made up of a stator (2) and a rotor (1), a traction pulley (3) integrated into the rotor (2), and electromechanical brake (7) what acts by way of shoes on a cylindrical surface integrated into the assembly of traction pulley (3) and rotor (1), a movement detection system and an emergency system for cases of lack of energy, characterised in that the electrical motor is an asynchronous electrical motor whose input current may vary in frequency and tension so that the motor should reach a variable electrical power with values of between a minimum of 2.2 Kw to a maximum of 20 kkw, in order to allow it to lift different loads with the same model of motor.
- 10
- 15
2. Vertical elevator traction system with built-in regulation, safety and emergency means according to claim 1, characterised in that said asynchronous stator (2) is made up of a set of thin sheets joined together by through screws and 72 winding grooves, multiple of 12 poles, and in that the rotor (1) is of the "squirrel cage" type, made of copper and with a diameter of 280 mm and central ring, in the shape of rectangular bars in a circle, said bars having a size of approximately 5 x 16 mm and said bars having an inclination of around 8%.
- 20
- 25
3. Vertical elevator traction system with built-in regulation, safety and emergency means according to claim 1, characterised in that said emergency system for cases of lack of energy is made up of 84 V batteries that directly activate the electrical motor by way of a frequency shifter, which facilitates completing the manoeuvre that allows the elevator to reach the floor level and open its doors.
- 30

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PCT/ES2003/000232

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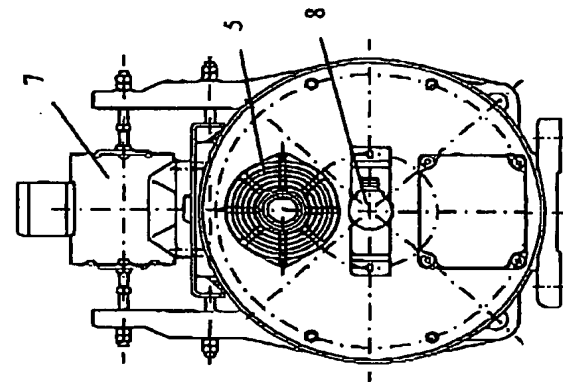


FIGURE 3

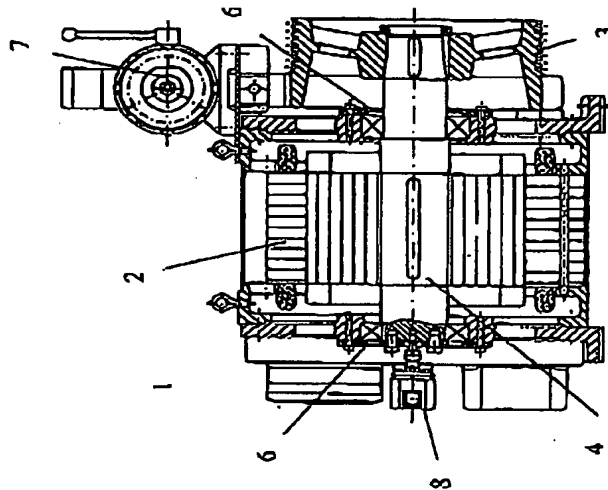


FIGURE 2

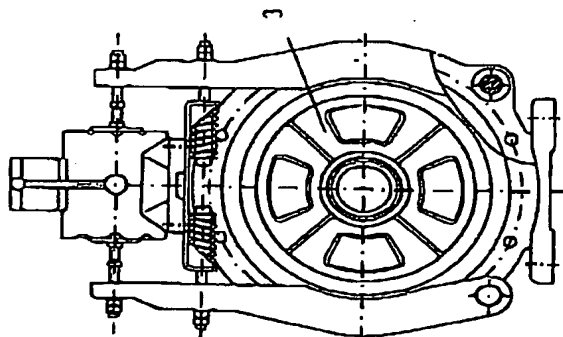


FIGURE 1

WO 2004/103881

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PCT/ES2003/000232

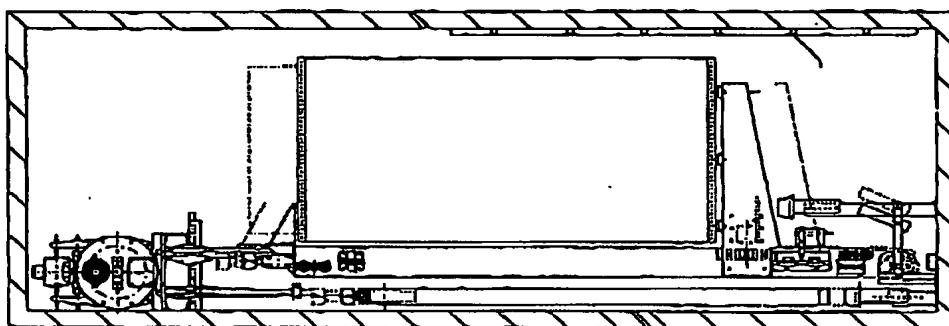


FIGURE 5

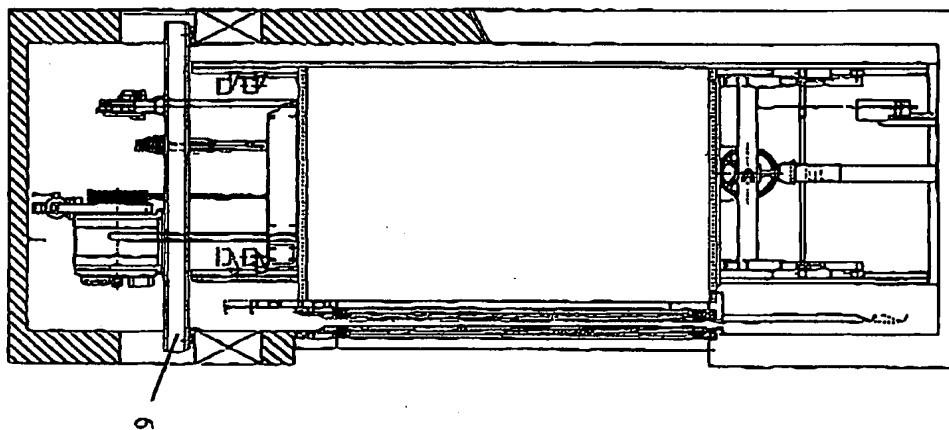


FIGURE 4

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ES03/00232

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC <sup>7</sup> B66B11/04		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
IPC <sup>7</sup> B66B, H02K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPODOC, WPI, CIBEPAT, PAJ		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	EP 1298084 A (Kabushiki Kaisha Meidensha) 02.04.2003 Paragraphs 29 y 31	1,4,5 2,3,6-8
X A	EP 1069068 A (Inventio AG) 17.01.2001 Paragraphs 9-14	1,4,5 2,3,6-8
X A	US 5244060 A (Tanaka et al.) 14.09.1993 Column 2, line 60- Column 4, line 50	1,4,5 2,3,6-8
X A	US 6371248 B1 (Cholinski.) 16.04.2002 Column 1, line 60- Column 2, line 65	1,4,5 2,3,6-8
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"Z" document member of the same patent family</p>		
Date of the actual completion of the international search		Date of mailing of the international search report
22 September 2003 (22.09.03)		29 September 2003 (29.09.03)
Name and mailing address of the ISA/		Authorized officer
SPTO		
Facsimile No.		Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/ ES03/00232

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1298084 A	02.04.2003	EP 1298084 A KR2003027685A JP2003104666A US2003070881A1 CN1410338A	02.04.2003 07.04.2003 09.04.2003 17.04.2003 16.04.2003
EP 1069068 A	17.01.2001	EP 1069068 A	17.01.2001
US 5244060 A	14.09.1993	US 5244060 A	14.09.1993
US 6371248 B1	16.04.2002	US 6371248 B1 EP1013598 A1 JP200219444 A CA2291949 A1	16.04.2002 28.06.2000 08.08.2000 14.06.2000

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PCT104/EP

Nr. der Anmeldung (des Patents) / Application/Patent No. /  
N° de la demande (du brevet)

WO 2004/103881

Ich (Wir) / I (We) / Je (Nous)

**LASA BERASATEGUI, JAVIER**  
Beasainbidea, 22, E-20216  
Ormaiztegui, Gulpuzcoa  
España

bevollmächtigte(n) hiermit / do hereby authorize / autorize (autorisons) par la présente

**José Antonio Urizar Anasagasti (European Agent 54190)**  
C/Victor De La Serna 3-5 (parking)  
28016, Madrid, Spain

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PCT104/EP

Nr. der Anmeldung (des Patents) / Application/Patent No. /  
N° de la demande (du brevet)

WO 2004/103881

Ich (Wir) / I (We) / Je (Nous)

**AZURMENDI INCHAUSTI, Juan Jose**  
Landalucia, 22,  
E-01015 Vitoria  
España

bevollmächtigte(n) hiermit / do hereby authorise / autorise (autorisons) par la présente

**José Antonio Urizar Anasagasti (European Agent 54190)**  
C/Victor De La Sema 3-5 (parking)  
28016, Madrid, Spain

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Ort/Place/Lieu: **Madrid**

Datum/Date: **19 December 2005**

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EUROPEAN PATENT OFFICE  
Directorate  
D-80298 MÜNCHEN  
GERMANY/ALEMANIA

YOUR/REF.:

OUR/REF.: PCT104/EP

OFFICE OF: Madrid

DATE: 21/12/2005

**REF.: ENTRY INTO THE EUROPEAN PHASE BEFORE THE EPO  
FOR INTERNATIONAL APPLICATION N° PCT/ES2003/000232,  
WO 2004/103881.**

**APPLICANTS: LASA BERSATEGUI, Javier; AZURMENDI  
INCHAUSTI, Juan Jose.**

Dear Sirs,

Attached please find:

1. Form 1200 (Entry into the European Phase before the EPO).
2. Power of Attorneys issued by the applicants in favour of Jose Antonio Urizar Anasagasti.
3. Form 1010 duly completed and signed, along with a copy of the receipt of the deposit of 2209 euros in the EPO account.
4. Form 1037 for acknowledge of receipt of the documents.

Respectfully,

  
**JOSE ANTONIO URIZAR ANASAGASTI**  
Authorized Representative 54190

## 2

- Figure 1: Right profile view of the motor  
Figure 2: Raised section view of the motor  
Figure 3: Left profile view of the motor  
Figure 4: Right profile view of the elevator-motor assembly  
5 Figure 5: Left profile view of the elevator-motor assembly

The system described herein is mainly based on motor equipment as seen in figures 1, 2 and 3, consisting of a solid and robust body that provides movement to the cabin and counterweight. It is basically made up of a rotor (1), an asynchronous stator (2), a  
10 traction pulley (3), an electromechanical break (7) and a movement detection system.

#### Rotor and asynchronous stator

15 Thus named due to the rotating magnetic field that originates within its body, it has a small slip, minimal and reduced, obtained by the motor design and production system. The asynchronous concept implies lower supply costs than synchronous motors. What is obtained with this rotor model is similar in features to the former one, since it is provided with very small slips (between 2% and 5%) when it is common to reach up to  
20 15%. This implies that the performance is greater and consumption is lesser. The rotor (1) features a "squirrel cage" made of copper in the form of a quantity of around 66, approximately 5 X 16 mm, rectangular bars in a circle, with an inclination of 8% of the bars, and a diameter of 280 mm and central ring.

25 The stator (2) is made up of 0.5 mm-thick magnetic sheets and 72 winding grooves, multiple of 12 poles. There are different types of winding threads depending on the power to be obtained. This is characterised by the total length of the package, there being different types.

30 The external circular geometrical conception is always the same, independent of the power, which simplifies the design of the assembly.

The set of stator sheets (2) is fixed between two rings with 8 through screws that form the fixed statorical set. The assembly is mounted on two lateral covers (6) that it  
35 incorporates, screwed onto a part where, in turn and on two bearings, the axis (4) and rotor (1) mentioned above are situated.

As forced, unidirectional ventilation, the air crosses the entire rotor-stator assembly from one end to another, as can be observed in figure 2, being closed at the opposite  
40 end to the pulley with a hollow cover (5) where the warm air is absorbed and expulsed

to the exterior. The maximum temperatures that any internal part of the motor acquires are lower than 65° C when fully operating.

5 The technological advancement is mainly concentrated in the concept of the low slippage and high torque asynchronous motor, unknown up to the present in this field. This apparatus makes the use of permanent magnet synchronous motors obsolete, being much more expensive as regards their construction and the different models being built to provide for the different power demands, since it can offer, by way of a single model, powers from 2.2 Kw to 20 Kw, by varying frequency and voltage of the  
10 input current. It is also characterised by the fact that it does not feature gears since its action is based on direct motor-pulley traction.

Another advantage found is that its working life is lengthened due to the more bearable type of work it carries out with regards maximum temperatures, guaranteeing a working  
15 life of between 30 and 60 years.

#### TRACTION PULLEY

20 The traction pulley (3) is rigidly incorporated into the very axis (4) of the rotor (1), so that it transmits the motor torque to the lift by way of the wires that twist 180° around its upper section. On said motor pulley (3), a flat, cylindrical section is situated where the brake shoe operates it directly and the brake torque required by the elevator is executed.

25 The motor pulley (3) is of variable size depending on the number of wiring grooves for greater or lesser passenger capacity and oscillates between a minimum of three wires up to seven. It always has a fixed diameter of 320 mm.

#### 30 ELECTROMAGNETIC BRAKE

The electromagnetic brake (7) made up of electromagnet with overdrive current and brake shoes on the pulley plate (3) described. It functions by holding the braked  
35 elevator at rest.

#### MOVEMENT DETECTION SYSTEM

Formed by a digital encoder (8) and joined elastically to the rotor axis (4) in order to transmit information on the rotor (1) rotation speed. This provides high security and reliability of the component.

- 5 Within the incorporation of the system object of the present invention patent, is the positioning in an accessible place. As can be seen in figures 4 and 5, for this purpose the machine is situated at the upper part of the lift shaft resting on two sections (9) on the wall of the building itself, where the pressure force is transmitted, adequately isolated.
- 10 Likewise the motor – lift joint system includes an electronic function protocol for rescuing people in two possible ways: a) automatic rescue due to lack of exterior energy; b) manual rescue with exterior current.
- 15 For this purpose it requires a manoeuvre box and another emergency access normally located at the last stop. In this way, 84 V batteries (7 units of 12 V) are incorporated in order to make the motor function directly by way of a frequency shifter as well as in order to open the door of the lift.
- 20 With system a), in case of a lack of exterior current, the lift directly accesses the floor level and opens the lift door, thus freeing the trapped persons, carrying out the action automatically. This system tends to lower the lift but it raises it depending on whether the minimum torque is insufficient for executing the manoeuvre, thus inverting the turning direction. If it is sufficient, it goes directly down to the floor below. In both
- 25 cases it ends by stopping, opening its doors and deactivating the rescue system. If the emergency is produced at the floor level itself, the doors open immediately.

With system b), in case there should exist external electrical current and the movement of the cabin is carried out manually, since some safety contact is deactivated. For this

30 purpose it is manually bridged and the cabin is moved, under control, electrically to the floor level and the doors are opened.

The system is provided with visual and acoustic movement detectors of the arrival of the cabin to a floor level. Therefore the rescue procedure is carried out electro-

35 mechanically, automatically or manually, in complete safety.

As can be observed, the present invention patent is a system that is innovative in the market, with features that are superior to what currently exists and improves the currently existing technique, allowing the generation of higher quality service in the

40 traction system, and acting more quickly and in a more economical way.

**And, having sufficiently described the nature and functions of the system, as well as a practical embodiment of it, it only needs be added that in both the shape and materials, size and execution may undergo modifications, as long as they do not substantially alter the characteristics claimed in the section below.**

2

<input checked="" type="checkbox"/> <b>4. Prüfungsantrag</b> Hiermit wird die Prüfung der Anmeldung gemäß Art. 94 EPU beantragt. Die Prüfungsgebühr wird (wurde) entrichtet.  Prüfungsantrag in einer zugelassenen Nichtamtssprache (siehe Merkblatt III, 5.2) :	<b>4. Request for examination</b> Examination of the application under Art. 94 EPC is hereby requested. The examination fee is being (has been, will be) paid.  Request for examination in an admissible non-EPO language (see Notes III, 5.2) :  Se solicita el examen de la solicitud según el art.94 CPE	<b>4. Requête en examen</b> Il est demandé que soit examinée la demande de brevet conformément à l'art. 94 CBE. Il est (a été, sera) procédé au paiement de la taxe d'examen.  Requête en examen dans une langue non officielle autorisée (voir notice III, 5.2) :
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EPA/EPO/OEB Form 1200.2 12.02

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<p><b>7. Übersetzungen</b> Beigefügt sind die nachfolgend angekreuzten Übersetzungen in einer der Amtssprachen des EPA (Deutsch, Englisch, Französisch):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>Im Verfahren vor dem EPA als Bestimmungsort oder ausgewähltem Amt (PCT I + II):</b> Übersetzung der ursprünglich eingereichten internationalen Anmeldung (Beschreibung, Ansprüche, etwaige Textbestandteile in den Zeichnungen), der veröffentlichten Zusammenfassung, und etwaiger Angaben über biologisches Material nach Regel 13<sup>ter</sup>.3 und 13<sup>ter</sup>.4 PCT</li> <li><input type="checkbox"/> Übersetzung der prioritätsbegründenden Anmeldung(en)</li> <li><input type="checkbox"/> Es wird hiermit erklärt, daß die internationale Anmeldung in ihrer ursprünglich eingereichten Fassung eine vollständige Übersetzung der früheren Anmeldung ist (Regel 38(5) EPÜ)</li> <li><input type="checkbox"/> <b>Zusätzlich im Verfahren vor dem EPA als Bestimmungsort (PCT I):</b> Übersetzung der nach Art. 19 PCT geänderten Ansprüche nebst Erklärung, falls diese dem Verfahren vor dem EPA zugrunde gelegt werden sollen (siehe Feld 6)</li> <li><input type="checkbox"/> <b>Zusätzlich im Verfahren vor dem EPA als ausgewähltem Amt (PCT II):</b> Übersetzung der Anlagen zum internationalen vorläufigen Prüfungsbericht</li> </ul>	<p><b>7. Translations</b> Translations in one of the official languages of the EPO (English, French, German) are enclosed as crossed below:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>In proceedings before the EPO as designated or elected Office (PCT I + II):</b> Translation of the international application (description, claims, any text in the drawings) as originally filed, of the abstract as published and of any indication under Rule 13<sup>ter</sup>.3 and 13<sup>ter</sup>.4 PCT regarding biological material</li> <li><input type="checkbox"/> Translation of the priority application(s)</li> <li><input type="checkbox"/> It is hereby declared that the international application as originally filed is a complete translation of the previous application (Rule 38(5) EPC)</li> <li><input type="checkbox"/> <b>In addition, in proceedings before the EPO as designated Office (PCT I):</b> Translation of amended claims and any statement under Art. 19 PCT, if the claims as amended are to form the basis for the proceedings before the EPO (see Section 8)</li> <li><input type="checkbox"/> <b>In addition, in proceedings before the EPO as elected Office (PCT II):</b> Translation of any annexes to the international preliminary examination report</li> </ul>	<p><b>7. Traductions</b> Vous trouverez, ci-joint, les traductions cochées ci-après dans l'une des langues officielles de l'OEB (allemand, anglais, français) :</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> <b>Dans la procédure devant l'OEB agissant en qualité d'office désigné ou élu (PCT I + II):</b> Traduction de la demande internationale telle que déposée initialement (description, revendications, textes figurant éventuellement dans les dessins), de l'abrégé publié, et de toutes indications visées aux règles 13<sup>ter</sup>.3 et 13<sup>ter</sup>.4 du PCT concernant le matériel biologique</li> <li><input type="checkbox"/> Traduction de la (des) demande(s) ouvrant le droit de priorité</li> <li><input type="checkbox"/> Il est déclaré par la présente que la demande internationale telle que déposée initialement est une traduction intégrale de la demande antérieure (règle 38(5) CBE)</li> <li><input type="checkbox"/> <b>De plus, dans la procédure devant l'OEB agissant en qualité d'office désigné (PCT I) :</b> Traduction des revendications modifiées et de la déclaration faite conformément à l'article 19 du PCT, si la procédure devant l'OEB doit être fondée sur les revendications modifiées (voir la rubrique 6)</li> <li><input type="checkbox"/> <b>De plus, dans la procédure devant l'OEB agissant en qualité d'office élu (PCT II) :</b> Traduction des annexes du rapport d'examen préliminaire international</li> </ul>
<p><input type="checkbox"/> <b>8. Biologisches Material</b> Die Erfindung bezieht sich auf bzw. verwendet biologisches Material, das nach Regel 28 EPÜ hinterlegt worden ist.</p> <p><input type="checkbox"/> Die Angaben nach Regel 28(1)c) EPÜ (falls noch nicht bekannt, die Hinterlegungsstelle und das (die) Bezugszeichen (Nummer, Symbole usw.) des Hinterlegers) sind in der internationalen Veröffentlichung oder in der gemäß Feld 7 eingereichten Übersetzung enthalten auf:</p> <p>Seite(n) / Zeile(n)</p> <p><input type="checkbox"/> Die Empfangsbescheinigung(en) der Hinterlegungsstelle</p> <p><input type="checkbox"/> ist (sind) beigelegt</p> <p><input type="checkbox"/> wird (werden) nachgereicht</p> <p><input type="checkbox"/> Verzicht auf die Verpflichtung des Antragstellers nach Regel 28(3) EPÜ auf gesondertem Schriftstück</p>	<p><input type="checkbox"/> <b>8. Biological material</b> The invention relates to and/or uses biological material deposited under Rule 28 EPC.</p> <p><input type="checkbox"/> The particulars referred to in Rule 28(1)(c) EPC (if not yet known, the depository institution and the identification reference(s) (number, symbols etc.) of the depository) are given in the international publication or in the translation submitted under Section 7 on:</p> <p>page(s) / line(s)</p> <p><input type="checkbox"/> The receipt(s) of deposit issued by the depository institution</p> <p><input type="checkbox"/> is (are) enclosed</p> <p><input type="checkbox"/> will be filed at a later date</p> <p><input type="checkbox"/> Waiver of the right to an undertaking from the requester pursuant to Rule 28(3) EPC attached.</p>	<p><input type="checkbox"/> <b>8. Matière biologique</b> L'invention concerne et/ou utilise de la matière biologique, déposée conformément à la règle 28 CBE.</p> <p><input type="checkbox"/> Les indications visées à la règle 28(1)c) CBE (si non encore connues, l'autorité de dépôt et la (les) référence(s) d'identification (numéro ou symboles etc.) du déposant) figurent dans la publication internationale ou dans une traduction produite conformément à la rubrique 7 à la / aux:</p> <p>page(s) / ligne(s).</p> <p><input type="checkbox"/> Le(s) récépissé(s) de dépôt délivré(s) par l'autorité de dépôt</p> <p><input type="checkbox"/> est (sont) joint(s)</p> <p><input type="checkbox"/> sera (seront) produit(s) ultérieurement</p> <p><input type="checkbox"/> Renonciation, sur document distinct, à l'engagement du requérant au titre de la règle 28(3) CBE.</p>

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<p><b>9. Nucleotid- und Aminosäuresequenzen</b> Die nach Regeln 5.2 und 13<sup>m</sup> PCT sowie Regel 111(3) EPÜ erforderlichen Unterlagen liegen dem EPA bereits vor.</p> <p><input type="checkbox"/> Das schriftliche Sequenzprotokoll wird anliegend nachgereicht.</p> <p><input type="checkbox"/> Das Sequenzprotokoll geht nicht über den Inhalt der Anmeldung in der ursprünglich eingereichten Fassung hinaus.</p> <p><input type="checkbox"/> Der vorgeschriebene Datenträger ist beigelegt.</p> <p><input type="checkbox"/> Die auf dem Datenträger gespeicherte Information stimmt mit dem schriftlichen Sequenzprotokoll überein.</p>	<p><b>9. Nucleotide and amino acid sequences</b> The items necessary in accordance with Rules 5.2 and 13<sup>m</sup> PCT and Rule 111(3) EPC have already been furnished to the EPO.</p> <p>The written sequence listing is furnished herewith.</p> <p>The sequence listing does not include matter which goes beyond the content of the application as filed.</p> <p>The prescribed data carrier is enclosed.</p> <p>The information recorded on the data carrier is identical to the written sequence listing.</p>	<p><b>9. Séquences de nucléotides et d'acides aminés</b> Les pièces requises selon les règles 5.2 et 13<sup>m</sup> PCT et la règle 111(3) CBE ont déjà été déposées auprès de l'OEB.</p> <p>La liste de séquences écrite est produite conjoint.</p> <p>La liste de séquences ne contient pas d'éléments s'étendant au-delà du contenu de la demande telle qu'elle a été déposée.</p> <p>Le support de données prescrit est joint.</p> <p>L'information figurant sur la support de données est identique à celle que contient la liste de séquences écrite.</p>
<p><b>10. Benennungsgebühren</b></p> <p><input checked="" type="checkbox"/> <b>10.1</b> Es ist derzeit beabsichtigt, den siebenfachen Betrag einer Benennungsgebühr zu entrichten. Damit gelten die Benennungsgebühren für alle Vertragsstaaten des EPÜ<sup>1</sup> als entrichtet (Art. 2 Nr. 3 GebÜ), soweit sie in der internationalen Anmeldung bestimmt sind<sup>2</sup>.</p> <p><input type="checkbox"/> <b>10.2</b> Abweichend von der Erklärung in Nr. 10.1 ist derzeit beabsichtigt, weniger als sieben Benennungsgebühren für folgende in der internationalen Anmeldung bestimmte Vertragsstaaten des EPÜ<sup>2</sup> zu entrichten:</p> <p>(1) <input type="checkbox"/> _____</p> <p>(2) <input type="checkbox"/> _____</p> <p>(3) <input type="checkbox"/> _____</p> <p>Soweit unter Nr. 10.2 Vertragsstaaten aufgeführt sind, wird beantragt, für die dort nicht aufgeführten Vertragsstaaten von der Zustellung einer Mitteilung nach Regel 108(3) EPÜ abzugehen.</p> <p><input checked="" type="checkbox"/> <b>10.3</b> Wird ein automatischer Abbuchungsauftrag erteilt (Feld 12), so wird das EPA beauftragt, bei Ablauf der Grundfrist nach Regel 107 (1)(d) EPÜ den siebenfachen Betrag einer Benennungsgebühr abzubuchen. Ist eine Erklärung nach Nr. 10.2 abgegeben worden, so sollen die Benennungsgebühren nur für die dort angegebenen Vertragsstaaten abgebucht werden, sofern dem EPA nicht bis zum Ablauf der Grundfrist ein anderslautender Auftrag zugeht.</p>	<p><b>10. Designation fees</b></p> <p><b>10.1</b> It is currently intended to pay seven times the amount of the designation fee. The designation fees for all the EPC contracting states<sup>2</sup> designated in the international application<sup>2</sup> are thereby deemed to have been paid (Art. 2 No. 3 RFEes).</p> <p><b>10.2</b> The declaration in No. 10.1 does not apply. Instead, it is currently intended to pay fewer than seven designation fees for the following EPC contracting states<sup>2</sup> designated in the international application:</p> <p>(4) <input type="checkbox"/> _____</p> <p>(5) <input type="checkbox"/> _____</p> <p>(6) <input type="checkbox"/> _____</p> <p>If contracting states are indicated under No. 10.2, it is requested that no communication under Rule 108(3) EPC be issued for contracting states not thus indicated.</p> <p><b>10.3</b> If an automatic debit order has been issued (Section 12), the EPO is authorised, on expiry of the basic period under Rule 107(1)(d) EPC, to debit seven times the amount of the designation fee. If states are indicated under No. 10.2, the EPO will debit designation fees only for those states, unless instructed otherwise before the basic period expires.</p>	<p><b>10. Taxes de désignation</b></p> <p><b>10.1</b> Il est actuellement envisagé de payer un montant correspondant à sept fois la taxe de désignation. Les taxes de désignation sont ainsi réputées payées pour tous les Etats contractants de la CBE<sup>2</sup> désignés dans la demande internationale<sup>2</sup> (art. 2, point 3 du RRT).</p> <p><b>10.2</b> Contrairement à ce qui est indiqué au n° 10.1, il est actuellement envisagé de payer moins de sept taxes de désignation pour les Etats contractants de la CBE<sup>2</sup> suivants désignés dans la demande internationale :</p> <p>(7) <input type="checkbox"/> _____</p> <p>(8) <input type="checkbox"/> _____</p> <p>(9) <input type="checkbox"/> _____</p> <p>Si des Etats contractants sont mentionnés au n° 10.2, prière de ne pas procéder à la signification d'une notification prévue par la règle 108(3) CBE pour les Etats contractants n'y étant pas mentionnés.</p> <p><b>10.3</b> Si un ordre de prélèvement automatique est donné (rubrique 12), il est demandé à l'OEB de prélever, à l'expiration du délai normal visé à la règle 107(1)(d) CBE, un montant correspondant à sept fois la taxe de désignation. Si une déclaration a été faite au n° 10.2, les taxes de désignation ne sont à prélever que pour les Etats contractants qui y sont indiqués, sauf instruction contraire reçue par l'OEB avant l'expiration du délai normal.</p>

<sup>1</sup> Stand bei Drucklegung: 27 Vertragsstaaten, und zwar: / Status when this form was printed: 27 contracting states, namely: / Situation à la date d'impression: 27 Etats contractants, à savoir: AT Österreich / Austria / Autriche, BE Belgien / Belgium / Belgique, BG Bulgarien / Bulgaria / Bulgarie, CH / LI Schweiz und Liechtenstein / Switzerland and Liechtenstein / Suisse et Liechtenstein, CY Zypern / Cyprus / Chypre, CZ Tschechische Republik / Czech Republic / République tchèque, DE Deutschland / Germany / Allemagne, DK Dänemark / Denmark / Danemark, EE Estland / Estonia / Estonie, ES Spanien / Spain / Espagne, FI Finnland / Finland / Finlande, FR Frankreich / France / France, GB Vereinigtes Königreich / United Kingdom / Royaume-Uni, GR Griechenland / Greece / Grèce, HU Ungarn / Hungary / Hongrie, IE Irland / Ireland / Irlande, IT Italien / Italy / Italie, LU Luxemburg / Luxembourg / Luxembourg, MC Monaco / Monaco / Monaco, NL Niederlande / Netherlands / Pays-Bas, PT Portugal / Portugal / Portugal, RO Rumänien / Romania / Roumanie, SE Schweden / Sweden / Suède, SI Slowenien / Slovenia / Slovénie, SK Slowakische Republik / Slovak Republic / République slovaque, TR Türkei / Turkey / Turquie

<sup>2</sup> Für folgende Staaten nur möglich, falls in der internationalen Anmeldung am oder nach folgendem Tag bestimmt: Slowakische Republik, Bulgarien, Tschechische Republik und Estland: 1. Juli 2002, Slowenien: 1. Januar 2003 und Rumänien: 1. März 2003. / For the following states this is possible only if they are designated in the international application on or after the stated date: Slovak Republic, Bulgaria, Czech Republic and Estonia: 1 July 2002, Slovenia: 1 January 2003, Hungary: 1 January 2003 and Romania: 1 March 2003. / En ce qui concerne les Etats suivants seulement si la désignation a été effectuée dans la demande internationale à la date suivante ou 1<sup>er</sup> mars 2003: République slovaque, Bulgarie, République tchèque et Estonie: 1<sup>er</sup> juillet 2002, Slovénie: 1<sup>er</sup> janvier 2003, Roumanie: 1<sup>er</sup> mars 2003.



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Date  
07.10.05

Reference	Application No./Patent No. 03727512.0 - 2316 PCT/ES0300232
Applicant/Proprietor LASA BERASATEGUI, Javier, et al	

#### **Entry into the European phase before the European Patent Office**

**These notes describe the procedural steps required for entry into the European phase before the European Patent Office (EPO). You are advised to read them carefully: failure to take the necessary action in time can lead to your application being deemed withdrawn.**

1. The above-mentioned international patent application has been given European application No. **03727512.0**.
2. Applicants **without** a residence or their principal place of business in an EPC contracting state may themselves initiate European processing of their international applications, provided they do so before expiry of the 31st month from the priority date (see also point 6 below).

**During the European phase before the EPO as designated or elected Office, however, such applicants must be represented by a professional representative (Arts. 133(2) and 134(1), (7) EPC).**

Procedural acts performed after expiry of the 31st month by a professional representative who acted during the international phase but is not authorised to act before the EPO have no legal effect and therefore lead to loss of rights.

**Please note that a professional representative authorised to act before the EPO and who acted for the applicant during the international phase does not automatically become the representative for the European phase. Applicants are therefore strongly advised to appoint in good time any representative they wish to initiate the European phase for them; otherwise, the EPO has to send all communications direct to the applicant.**

3. Applicants **with** a residence or their principal place of business in an EPC contracting state are not obliged to appoint, for the European phase before the EPO as designated or elected Office, a professional representative authorised to act before the EPO.  
**However, in view of the complexity of the procedure it is recommended that they do so.**
4. Applicants and professional representatives are also strongly advised to initiate the European phase using EPO Form 1200 (available free of charge from the EPO). This however is not compulsory.



5. **To enter the European phase before the EPO, the following acts must be performed.**  
(N.B.: Failure validly to do so will entail loss of rights or other adverse legal consequences.)
- 5.1 If the EPO is acting as **designated or elected Office** (Arts. 22(1)(3) and 39(1) PCT respectively), applicants must, within 31 months from the date of filing or (where applicable) the earliest priority date:
- a) Supply a translation of the international application into an EPO official language, if the International Bureau did not publish the application in such a language (Art. 22(1) PCT and Rule 107(1)(a) EPC).  
**If the translation is not filed in time, the international application is deemed withdrawn before the EPO (Rule 108(1) EPC).**  
This loss of rights is deemed not to have occurred if the translation is then filed within a two-month grace period as from notification of an EPO communication, provided a surcharge is paid at the same time (Rule 108(3) EPC).
  - b) Pay the national basic fee (EUR 160,00) and, where a supplementary European search report has to be drawn up, the search fee (EUR 960,00 ; Rule 107(1)(c) and (e) EPC).
  - c) If the time limit under Article 79(2) EPC expires before the 31-month time limit, pay the designation fee (EUR 75,00) for each contracting state designated (Rule 107(1)(d) EPC).
  - d) If the time limit under Article 94(2) EPC expires before the 31-month time limit, file the written request for examination and pay the examination fee (EUR 1430,00 ; Rule 107(1)(f) EPC).
  - e) Pay the third-year renewal fee (EUR 380,00) if it falls due before expiry of the 31-month time limit (Rule 107(1)(g) EPC).
- If the fees under (b) to (d) above are not paid in time, or the written request for examination is not filed in time, the international application is deemed withdrawn before the EPO, or the contracting-state designation(s) in question is (are) deemed withdrawn (Rule 108(1) and (2) EPC). However, the fees may still be validly paid within a two-month grace period as from notification of an EPO communication, provided the necessary surcharges are paid at the same time (Rule 108(3) EPC). For the renewal fee under (e) above, the grace period is six months from the fee's due date (Article 86(2) EPC).
- 5.2 If the application documents on which the European grant procedure is to be based comprise more than ten claims, a claims fee is payable within the 31-month time limit under Rule 107(1) EPC for the eleventh and each subsequent claim (Rule 110(1) EPC). The fee can however still be paid within a one-month grace period as from notification of an EPO communication pointing out the failure to pay (Rule 110(2) EPC).
6. If the applicant had a representative during the application's international phase, the present notes will be sent to the representative, asking him to inform the applicant accordingly.
- All subsequent communications will be sent to the applicant, or - if the EPO is informed of his appointment in time - to the applicant's European representative.**



Date

Sheet 3

Application No. 03727512.0

7. For more details about time limits and procedural acts before the EPO as designated and elected Office, see the EPO brochure

How to get a European patent  
Guide for applicants - Part 2  
PCT procedure before the EPO - "Euro-PCT"

This brochure, the list of professional representatives before the EPO, Form 1200 and details of the latest fees are now all available on the Internet under

<http://www.european-patent-office.org>

#### RECEIVING SECTION



(12) SOLICITUD INTERNACIONAL PUBLICADA EN VIRTUD DEL TRATADO DE COOPERACIÓN  
EN MATERIA DE PATENTES (PCT)

(19) Organización Mundial de la Propiedad  
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(81) Estados designados (nacional): AE, AG, AL, AM, AT,  
AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR,

CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU,  
SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,  
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(84) Estados designados (regional): patente ARIPO (GH, GM,  
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euroasiática (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
patente europea (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), patente OAPI (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

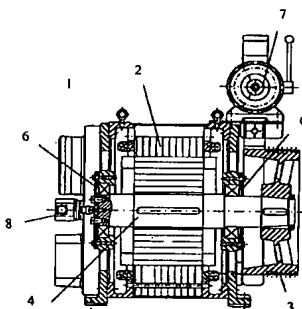
**Publicada:**

- con informe de búsqueda internacional
- con reivindicaciones modificadas

Para códigos de dos letras y otras abreviaturas, véase la sección  
"Guidance Notes on Codes and Abbreviations" que aparece al  
principio de cada número regular de la Gaceta del PCT.

(54) Title: VERTICAL TRACTION SYSTEM FOR ELEVATORS, WITH BUILT-IN CONTROL, SAFETY AND EMERGENCY SYSTEM

(54) Título: SISTEMA DE TRACCIÓN VERTICAL DE ELEVADORES CON REGULACIÓN, SEGURIDAD Y EMERGENCIA INCORPORADO



(57) Abstract: The invention relates to a vertical traction system for lifting elevators, consisting of a motor comprising a low-slip, high-torque asynchronous stator (2) and rotor (1), a driving pulley (3) which is rigidly connected to the rotor (1), an electromechanical brake (7) and a movement-detector system comprising a digital encoder (8) which is used to analyse information relating to the angular speed of the rotor (1). The torque is transmitted directly to the elevator between the motor and the pulley, without the use of gears. The inventive system is characterised in that, in the absence of voltage, the motor can be powered with direct current from batteries by varying the frequency and voltage. Using the same model, power of between 2.2 kW and 20 kW can be obtained. In the event of a breakdown, when electric current is still available, the motor is actuated until the elevator reaches a floor and the doors are opened.

(57) Resumen: Sistema de tracción vertical de elevación consistente en un motor formado por rotor (1) y estátor (2) asíncrono de bajo deslizamiento y alto par, polea de tracción (3) unida rígidamente al rotor (1), freno electromecánico (7) y sistema detector de movimiento formado por un encoder digital (8) responsable de cursar información de la velocidad angular del rotor (1). La transmisión del par al elevador se realiza directamente entre motor-polea con ausencia de engranajes. El sistema se caracteriza además porque el motor en caso ausencia de tensión posibilita la opción de alimentarse de corriente continua a través de baterías mediante la variación de frecuencia y voltaje. Con el mismo modelo se consiguen potencias desde 2,2 Kw a 20 Kw. En caso de avería y con presencia de corriente eléctrica, se acciona el motor hasta llegar el elevador a planta y realizar la apertura de puertas.

WO 2004/103881 A1

**SISTEMA DE TRACCIÓN VERTICAL DE ELEVADORES CON  
REGULACION, SEGURIDAD, Y EMERGENCIA INCORPORADO**

5 Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado.

10 El objeto de la presente Patente de Invención consiste en un novedoso sistema de elevación de ascensores con regulación, seguridad y rescate incorporado.

15 Ante la continua demanda en el mercado de ascensores de productos cada vez más exigentes y sofisticados, actualmente se están buscando equipos de elevación que se caractericen por:

- Eliminación del cuarto de máquinas superior
- Mejorar el rendimiento de los equipos para la reducción del consumo energético
- 20 - Reducir las potencias de los motores
- Eliminar la utilización del aceite en los ascensores de modo que formen parte de la filosofía ecológica del día de hoy
- Aumentar la gama y la capacidad de los ascensores con un sistema de reducidas dimensiones
- 25 - Aumentar la velocidad de maniobra de los ascensores sin mayor coste aún con un mismo equipo con lo que se consiga reducir parte de los costes actuales
- Unificación y estandarización de equipos con reducción de costes productivos
- 30 - Facilitar las formas de rescate de los usuarios del ascensor, e incluso hacerlos funcionar sin energía eléctrica de red, utilizando pequeñas baterías.
- Conseguir que los motores sean generadores y de éste modo incluso producir energía y hacerla regenerativa
- Conseguir que el consumo de energía de la red se reduzca en un 60 % de la
- 35 actualmente consumida

Todas las desventajas presentes en la actualidad, desaparecen con la utilización del Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado objeto de ésta memoria.

Dicho sistema se distingue de lo actual existente del mercado por poseer un campo de aplicación más extenso de 4 a 26 personas; no precisa de cuarto de máquinas; emplea una máquina tractora para todos los modelos; no requiere de aceite para su mantenimiento; consta de un alto rendimiento y bajas potencias instaladas; se caracteriza por su capacidad para utilización en alta velocidad.

El funcionamiento, así como la naturaleza del sistema en cuestión se comprenderá mejor con la ayuda de unos gráficos, adjuntados al final de la Patente

Figura 1.- Vista del perfil derecho del motor

Figura 2.- Vista del alzado seccionado del motor

Figura 3.- Vista del perfil izquierdo del motor

Figura 4.- Vista del perfil derecho conjunto elevador- motor

Figura 5.- Vista del perfil izquierdo conjunto elevador-motor

El sistema en cuestión se basa principalmente en un equipo motor como se aprecia en las figuras 1, 2 y 3, consistente en un cuerpo sólido y robusto que suministra el movimiento a la cabina y al contrapeso. Está formado básicamente por un rotor (1) y estátor (2) asíncrono, una polea de tracción (3), un freno electromecánico (7) y un sistema detector de movimiento.

### **Rotor y estátor asíncrono**

Denominado así porque el campo magnético giratorio que se origina dentro de su cuerpo tiene un pequeño deslizamiento, mínimo y reducido, conseguido por el sistema de diseño y fabricación del motor. El concepto asíncrono conlleva un menor costo en concepto de materiales que el motor síncrono. Lo conseguido con éste modelo de rotor se acerca en prestaciones al anterior ya que dispone de muy pequeños deslizamientos (entre un 2% y 5%) cuando lo habitual es que se acerque al 15 %. Esto conlleva que el rendimiento sea mayor y menor el consumo. El rotor (1) se caracteriza por tener una "jaula de ardilla" en material de cobre en forma de barras rectangulares de 5 x 16 mm aproximadamente y en un número cercano a 66 en círculo, con una inclinación de 8% en sus barras, así como un diámetro de 280 mm y anillo central.

El estátor (2) está formado por chapas magnéticas de 0,5 mm de espesor cada una y 72 ranuras de bobinado, múltiplo de 12 polos. Existen distintos tipos de hilos de bobinas según las potencias a obtener. Ésta se caracteriza por la longitud total del paquete, teniéndose diferentes tipos.

La concepción geométrica circular externa es siempre la misma independientemente de la potencia, lo que simplifica el diseño del conjunto.

El paquete de chapas del estátor (2) se fija entre dos anillos con 8 tornillos pasantes que forman el paquete estatórico fijo. El conjunto se monta sobre dos tapas laterales (6) que incorpora de forma atornillada en una pieza donde a su vez y sobre dos rodamientos se sitúa el eje (4) y rotor (1) anteriormente citado.

En concepto de ventilación forzada y unidireccional, cruza el aire a todo el conjunto rotor - estátor de extremo a extremo, según se observa en la figura 2, cerrándose en la parte opuesta a la polea con una tapa hueca (5) donde absorbe el aire caliente y lo expulsa al exterior. Las temperaturas máximas que



adquiere cualquier parte interna del motor son inferiores a los 65° C en pleno funcionamiento.

- 5 El avance tecnológico se concentra principalmente en el concepto de motor  
asíncrono de bajo deslizamiento y alto par, desconocido hasta hoy en éste  
campo. Este aparato hace desaparecer el uso de los motores síncronos de  
imanes permanentes mucho más costosos en relación a su construcción y en  
cuanto a los diferentes modelos a fabricar para atender las distintas potencias  
10 demandadas, ya que con él se pueden conseguir mediante el mismo modelo,  
potencias desde 2,2 Kw a 20 Kw, al variar la frecuencia y el voltaje de la  
corriente de alimentación. También se caracteriza por no disponer de  
engranajes dado que su actuación se basa en la tracción directa motor-polea.
- 15 Otra ventaja que se encuentra es la de alargar su vida útil por su tipo de trabajo  
desahogado en cuanto a temperaturas máximas, garantizando una vida útil  
entre 30 a 60 años.

## 20 **Polea de tracción**

- La polea de tracción (3) va incorporada rígidamente al eje (4) mismo del rotor  
(1), con lo que transmite el par motor al ascensor a través de los cables que le  
arrollan 180° de abrazamiento por su parte superior. Sobre dicha polea motriz  
25 (3) se sitúa una zona plana cilíndrica donde le acciona directamente la zapata  
de frenado y se ejecuta el par de frenado que precisa el elevador.

- La polea motriz (3) es variable en su dimensión según el número de ranuras de  
30 cables para menor o mayor capacidad de personas y oscila desde un mínimo  
de tres cables hasta siete. Su diámetro es siempre fijo, 320 mm.

## **Freno electromagnético**

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El freno electromecánico (7) formado por electroimán con corriente de sobreexcitación y zapatas de frenado sobre el plato polea (3) enunciado. Se ocupa de tener el elevador frenado en reposo.

5

#### **Sistema detector de movimiento**

Formado por un encoder digital (8) y unido elásticamente al eje rotor (4) para cursar información de la velocidad de giro del rotor (1). Esto proporciona una alta seguridad y fiabilidad del componente.

10

Dentro de la incorporación del sistema objeto de ésta Patente de Invención, está el de posicionarlo en un lugar asequible. Para ello, como se puede observar en las figuras 4 y 5, se sitúa la máquina en la parte superior del hueco de ascensor apoyada sobre dos perfiles laminados (9) en el propio muro del edificio, donde se transmite el esfuerzo de presión, aislado convenientemente.

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Así mismo, el sistema conjunto de motor - ascensor incorpora un protocolo electrónico de funcionamiento para el rescate de las personas de dos formas posibles: a) Rescate automático por falta de energía exterior; b) Rescate manual con tensión exterior.

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Para esto necesita un armario de maniobra y otro de acceso de emergencia situados normalmente en la última parada. De éste modo se incorpora unas baterías de 84 V (7 uds. de 12 V), para hacer funcionar directamente al motor mediante un variador de frecuencia así como para abrir la puerta del ascensor.

30

Con el sistema a), en caso de falta de corriente exterior, el ascensor accede directamente al nivel de piso y abre las puertas del ascensor liberando a las personas atrapadas, haciéndolo de forma automática. El sistema tiende a bajar el elevador pero lo sube en función de si el par mínimo es insuficiente para

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ejecutar la maniobra, invirtiendo el sentido de giro. Si es suficiente, directamente baja a la planta inferior. En ambos casos finaliza parándose, abriendo las puertas y desactivándose el sistema de rescate. Si la emergencia se produce en la misma planta, instantáneamente se produce la apertura de las puertas.

5

Con el sistema b), en caso de existencia de corriente eléctrica externa y de forma manual, se realiza el movimiento de la cabina, ya que está desactivado algún contacto de seguridad. Para ello se trata manualmente de puentearlo y  
10 bajo control, mover eléctricamente la cabina hasta la planta abriendo las puertas.

El sistema dispone de detectores visuales y acústicos de llegadas de cabina a  
15 piso. Por tanto el procedimiento de rescate se ejecuta de forma electromecánica, automática o manual, con total seguridad.

Como se observa, la Patente de Invención presente es un sistema novedoso en  
20 el mercado, con unas prestaciones que superan lo existente en la actualidad y que mejora la técnica existente en la actualidad, permitiendo generar servicios de más calidad en el sistema de tracción, actuar con mayor rapidez y de forma más económica.

25

Y, una vez descritos la naturaleza y funciones de sistema, así como una aplicación práctica del mismo, tan solo falta añadir que tanto las formas, como los materiales, tamaño y ejecución, son susceptibles de sufrir modificaciones, siempre y cuando éstas no alteren de forma substancial las características que  
30 se reivindican en el siguiente apartado.

## REIVINDICACIONES

5           1.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, caracterizado porque consta de un motor formado por un rotor (1) y estátor asíncrono (2), una polea de tracción (3), un freno electromecánico (7) y un sistema detector de movimiento.

10           2.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, según la reivindicación anterior, caracterizado porque el rotor (1) consta de una "jaula de ardilla" en material de cobre en forma de barras rectangulares en círculo, con una inclinación próxima a 8% en sus barras, así como un diámetro de 280 mm y anillo central.

15

            3.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, según la primera reivindicación, caracterizado porque el estátor (2) está formado por un conjunto de chapas delgadas y 72 ranuras de bobinado, múltiplo de 12 polos, fijadas dichas chapas entre dos anillos con  
20           tornillos pasantes que forman el paquete estatórico fijo.

            4.- Sistema de tracción vertical de elevadores con regulación, seguridad y  
25           emergencia incorporado, según la primera reivindicación, caracterizado porque el freno electromecánico (7) está formado por un electroimán de corriente de sobreexcitación y zapatas de frenado sobre la polea.

30           5.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, según la primera y anterior reivindicación, caracterizado porque la polea de tracción (3) va incorporada rígidamente al eje (4) mismo del rotor (1) y sobre la cual se encuentra una zona plana cilíndrica donde le acciona directamente una zapata de frenado que regula el par de  
35           frenado que precisa el elevador.

5       6.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, según la primera reivindicación, caracterizado porque el sistema de detector de movimiento está formado por un encoder digital (8) unido elásticamente al eje del rotor (4) responsable de cursar información de la velocidad de giro del rotor (1).

10       7.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, según la primera reivindicación, caracterizado porque lleva incorporado unas baterías de corriente continua para hacer funcionar directamente al motor mediante un variador de frecuencia en ausencia de corriente exterior.

15       8.- Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporado, según la primera reivindicación, caracterizado porque el sistema no necesita de cuarto de máquinas ya que queda instalado en el propio hueco del ascensor, sobre una bancada metálica y ésta a su vez apoyada sobre los muros del edificio soportante.

20

**REIVINDICACIONES MODIFICADAS**

**[recibidas por la Oficina Internacional el 28 de noviembre de 2003 (28.11.03):  
reivindicaciones 1-8 reemplazadas por una reivindicación 1-3 modificada]**

1. Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporadas, del tipo que incluye un motor eléctrico compuesto por un estator (2) y un rotor (1), una polea de tracción (3) integrada en el rotor (2), un freno electromecánico (7) que actúa mediante zapatas sobre una superficie cilíndrica integrada en el conjunto de polea de tracción (3) y rotor (1), un sistema detector de movimiento y un sistema de emergencia para casos de ausencia de energía **caracterizado porque** el motor eléctrico es un motor eléctrico asíncrono cuya corriente de alimentación puede variarse en frecuencia y tensión para conseguir que el motor tenga una potencia eléctrica variable de valores comprendidos entre un mínimo de 2,2 kw hasta un máximo de 20 kw, para permitir elevar cargas diferentes con el mismo modelo de motor.

2. Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporadas según la reivindicación 1, **caracterizado porque** dicho estator (2) asíncrono está formado por un paquete de chapas delgadas unidas con tornillos pasantes y 72 ranuras de bobinado, múltiplo de 12 polos, y **porque** el rotor (1) es del tipo de "jaula de ardilla", en material de cobre con un diámetro de 280 mm y anillo central, en forma de barras rectangulares en círculo teniendo dichas barras dimensiones aproximadas de 5 x 16 mm y teniendo dichas barras una inclinación cercana a 8%.

3. Sistema de tracción vertical de elevadores con regulación, seguridad y emergencia incorporadas según la reivindicación 1, **caracterizado porque** dicho sistema de emergencia para casos de ausencia de energía está formado por unas baterías de 84 V que accionan directamente el motor eléctrico a través de un variador de frecuencia, lo que permite completar la maniobra para que el elevador acceda al nivel del piso y abra sus puertas.

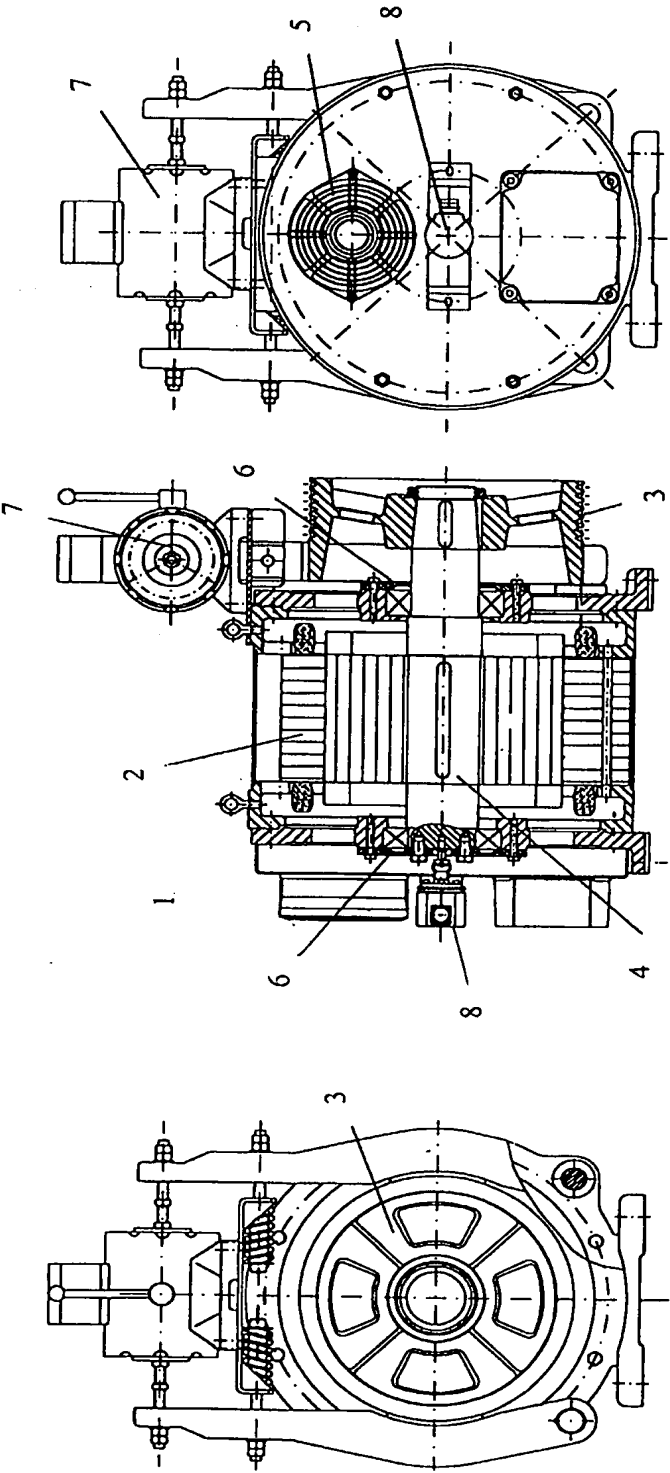


FIGURA 1

FIGURA 2

FIGURA 3

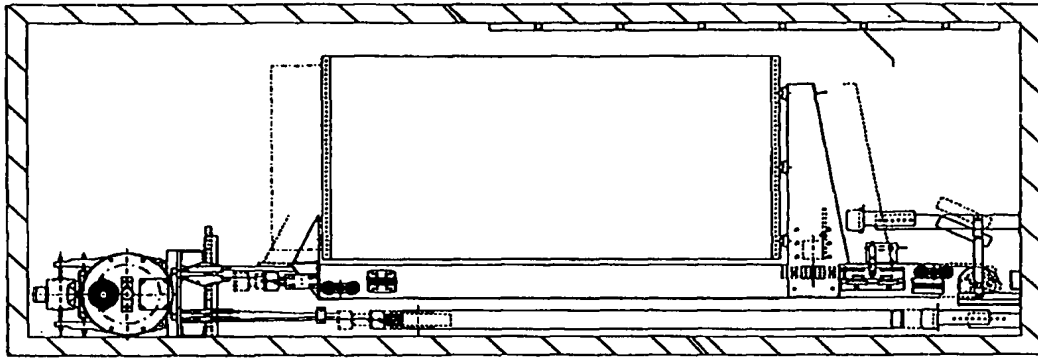


FIGURA 5

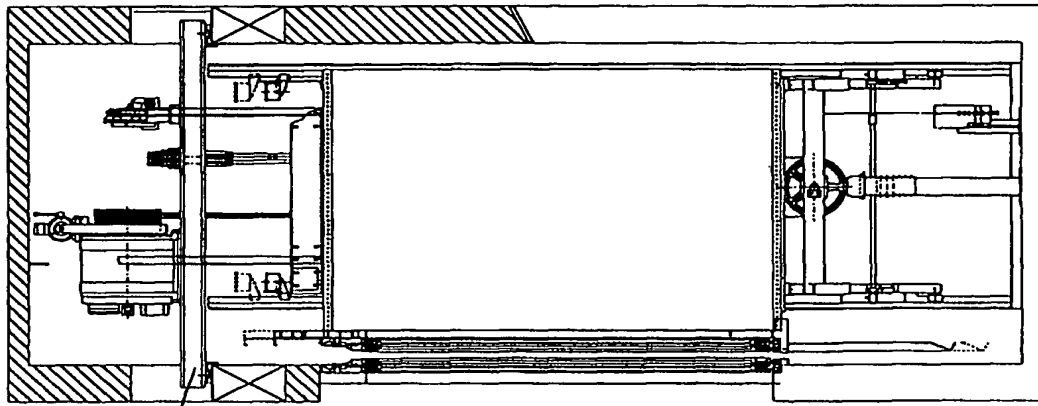


FIGURA 4

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ ES03/00232

A. CLASSIFICATION OF SUBJECT MATTER		
IPC <sup>7</sup> B66B11/04		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC <sup>7</sup> B66B, H02K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPODOC, WPI, CIBEPAT, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	EP 1298084 A (Kabushiki Kaisha Meidensha) 02.04.2003 <b>Paragraphs</b> 29 y 31	1,4,5 2,3,6-8
X A	EP 1069068 A (Inventio AG) 17.01.2001 <b>Paragraphs</b> 9-14	1,4,5 2,3,6-8
X A	US 5244060 A (Tanaka et al.) 14.09.1993 Column 2, line 60- Column 4, line 50	1,4,5 2,3,6-8
X A	US 6371248 B1 (Cholinski.) 16.04.2002 Column 1, line 60- Column 2, line 65	1,4,5 2,3,6-8
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "B" earlier document but published on or after the international filing date "I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
22 September 2003 (22.09.03)		29 September 2003 (29.09.03)
Name and mailing address of the ISA/  SPTO		Authorized officer
Facsimile No.		Telephone No.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No  
PCT/ ES03/00232

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1298084 A	02.04.2003	EP 1298084 A KR2003027685A JP2003104666A US2003070881A1 CN1410338A	02.04.2003 07.04.2003 09.04.2003 17.04.2003 16.04.2003
EP 1069068 A	17.01.2001	EP 1069068 A	17.01.2001
US 5244060 A	14.09.1993	US 5244060 A	14.09.1993
US 6371248 B1	16.04.2002	US 6371248 B1 EP1013598 A1 JP200219444 A CA2291949 A1	16.04.2002 28.06.2000 08.08.2000 14.06.2000

**INFORME DE BÚSQUEDA INTERNACIONAL**Solicitud internacional n°  
PCT/ ES03/00232**A. CLASIFICACIÓN DEL OBJETO DE LA SOLICITUD**CIP<sup>7</sup> B66B11/04

De acuerdo con la Clasificación Internacional de Patentes (CIP) o según la clasificación nacional y la CIP.

**B. SECTORES COMPRENDIDOS POR LA BÚSQUEDA**

Documentación mínima consultada (sistema de clasificación, seguido de los símbolos de clasificación)

CIP<sup>7</sup> B66B, H02K

Otra documentación consultada, además de la documentación mínima, en la medida en que tales documentos formen parte de los sectores comprendidos por la búsqueda

Bases de datos electrónicas consultadas durante la búsqueda internacional (nombre de la base de datos y, si es posible, términos de búsqueda utilizados)

EPODOC, WPI, CIBEPAT, PAJ

**C. DOCUMENTOS CONSIDERADOS RELEVANTES**

Categoría*	Documentos citados, con indicación, si procede, de las partes relevantes	Relevante para las reivindicaciones
X A	EP 1298084 A (Kabushiki Kaisha Meidensha) 02.04.2003 Párrafos 29 y 31	1,4,5 2,3,6-8
X A	EP 1069068 A (Inventio AG) 17.01.2001 Párrafos 9-14	1,4,5 2,3,6-8
X A	US 5244060 A (Tanaka et al.) 14.09.1993 Columna 2, línea 60- Columna 4, línea 50	1,4,5 2,3,6-8
X A	US 6371248 B1 (Cholinski.) 16.04.2002 Columna 1, línea 60- Columna 2, línea 65	1,4,5 2,3,6-8

☐ En la continuación del recuadro C se relacionan otros documentos ☒ Los documentos de familia de patentes se indican en el anexo

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"&amp;" documento que forma parte de la misma familia de patentes.

Fecha en que se ha concluido efectivamente la búsqueda internacional: 22 de Septiembre de 2003

Fecha de expedición del informe de búsqueda internacional

29 SEP 2003

Nombre y dirección postal de la Administración encargada de la búsqueda internacional

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**INFORME DE BÚSQUEDA INTERNACIONAL**  
 Información relativa a miembros de familias de patentes

Solicitud internacional nº

PCT/ ES03/00232

Documento de patente citado en el informe de búsqueda	Fecha de publicación	Miembro(s) de la familia de patentes	Fecha de publicación
EP 1298084 A	02.04.2003	EP 1298084 A KR2003027685A JP2003104666A US2003070881A1 CN1410338A	02.04.2003 07.04.2003 09.04.2003 17.04.2003 16.04.2003
EP 1069068 A	17.01.2001	EP 1069068 A	17.01.2001
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